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ORIGINAL ARTICLES.

ARTICLE I.

FOREIGN BODIES IN THE EAR.

By GORHAM BACON, M.D., Aural Surgeon, N. Y. Eye and Ear Infirmary.

Case 1.—Patient, æt 33 years, German; was seen September 19, 1882, and said that he had put an onion into the right ear on account of pain, and that it was still there.

The onion was removed by forceps. The mem. tympani was congested, especially along the handle of the malleus, as well as the bony auditory canal.

Case 2.—James C., æt. 7 years, consulted me November 28, 1882. He has naso-pharyngeal catarrh and enlarged tonsils, which are ulcerated. Last night, he says, while lying on the floor, his brother put a small piece of a prune stone into his left ear. Child very nervous.

Right mem. tympani retracted and opaque; short process prominent. Left mem. tympani congested in upper portion and along the handle of the malleus. The foreign body rests against the lower segment of the drum-head. It was removed by syringing.

Case 3.—John McC., æt. 3 years, September 19, 1882. His mother says that the child put a fruit-kernel into his right ear about half an hour ago.

Right canal filled with pus and blood. Foreign body removed with forceps.

Case 4.—Patient, a German; seen January 23, 1883. He put an onion in the left ear some time ago, on account of an ear-ache. An examination showed that a portion of the onion was pressed down against the mem. tympani. The canal was inflamed, and after removing the onion with forceps, a perforation was found in the drum-head.

Case 5.—A patient came to the Infirmary to-day, June 10, 1884, and said that he had put the rubber (on the end of a pencil) into the right auditory canal, to relieve the itching and that it had come off. It rested against the mem. tympani, and was removed easily by grasping it with a pair of foreign body forceps.

Case 6.—Leo T., æt. 13 years, was seen July 24, 1883. This morning a boy with a putty blower blew a foreign body (allspice) into his right ear. An examination of the right auditory meatus showed a round body in the bottom of the canal. This was removed by syringing and with the aid of a pair of forceps.

Case 7.—Nellie C., æt. 18 years, came to the N.Y. Eye and Ear Infirmary, July 17, 1883, and said that an insect got into her left ear yesterday, and since then the wings have come away. On examination it was seen that the greater part of the insect remained resting against the lower half of the left mem. tympani. A portion was removed by syringing, but it could not be extracted by instruments as it seemed to be firmly attached to the drum-head and traction caused considerable pain.

July 24th.—She was ordered to syringe the ear. The pain in the ear increased until a discharge appeared two or three days ago; since when the pain has been somewhat less. Repeated syringing has failed to bring away the remaining portion.

July 27th.—There has been considerable pain and a profuse discharge, and a perforation is now seen in the mem. tympani. Repeated syringing and Politzer inflation to-day brought away two more pieces of the insect, but the shell of the insect still remains firmly attached.

August 24th.—The discharge ceased August 1, with the hard shell in position against the drum-head. Any attempt to remove the hard substance with instruments caused pain. Repeated syringing has brought away fragments of the insect at times. Hearing distance. Watch, left ear, 0″.

Sept. 25th.—During the past month she has taken cold and the ear has pained her again, and there has been a discharge. The ear has been syringed repeatedly, but the remaining portion of the insect was not removed until to-day, when it was accomplished by means of the blunt hook and syringing.

October 26th.—She has had occasional pain. There is no discharge or tinnitus. The upper portion of the mem. tympani is red and fleshy looking.

Case 8.—Nellie H., æt. 5 years, October 9, 1882. She put a glass bead in her left ear October 5th. There has been slight pain since, but no discharge.

A year ago she had pain in the right ear, and wax was removed from that ear. She has some pain now in the right ear.

An examination shows the bead imbedded in a mass of cerumen in the left ear. A cylindrical bead was withdrawn by forceps and cerumen removed by syringing from both ears.

Case 9.—Lizzie G., æt 2 years, February 26, 1884, was brought to me with the statement that last Saturday (3 days ago) she put a piece of paper into the right ear. She seemed to have considerable pain afterwards all that day, and yesterday she cried considerably. She has eaten but little since and does not like to have the ear touched.

The child was etherized, and a piece of paper which had been twisted, was removed with a pair of foreign body forceps. The mem. tympani was very much congested.

Case 10.—John A., æt 25 years, consulted me March 2, 1884, and said that he has had a purulent discharge from the left ear for some time. Three months ago, on account of the itching in the meatus (left) he put the end of a pencil with an ivory tip in the ear and lost the tip, where it has been ever since.

On examining the left ear, there is seen remaining only a slight rim of the mem. tympani above, together with the short process and handle of the malleus, which rests against the promontory. The foreign body rests against the inner wall of the middle ear and in the lower part of the tympanum. It was removed easily with forceps.

Case 11.—A man, æt. 35 years, German, came to the Infirmary, April 26, 1887, and said that about two weeks ago, he put a piece of cotton into the left ear on account of ear-ache from a cold.

The left meatus was filled with a wad of cotton wool, which was removed with forceps.

Case 12.—Jacob T., æt. 39 years, longshoreman, was seen May 3, 1887. Last night, while passing a shoot for loading wheat, one of the kernels entered the left ear. He tried to remove it and only pushed it in further, causing a stinging pain and since morning considerable deafness. The kernel, resting against the lower anterior quadrant of the mem. tympani was removed with a curette.

Case 13.—T. M., æt 38 years, consulted me June 10, 1884. Six months ago, she put a piece of paper into the left ear. She comes now, complaining of tinnitus when she lies down, and a sensation of heat in the ear.

The foreign body was removed by syringing and the use of the forceps.

Case 14.—J. G. G., æt 14 years, came to the Infirmary August 5, 1884, and said that he had an oat seed in the ear. The seed was removed by forceps, and a mass of cerumen in the same ear was syringed out.

Case 15.—J. C., æt 40 years, October 21, 1884, said that twelve days ago a bug crawled into his left ear while he was asleep, and caused him much annoyance by its struggles, but gave him no pain. It was killed after a couple of days by the use of kerosene oil. Two days ago the ear began to discharge, but there is no pain.

Examination.—The left auditory canal was washed out with a mild solution of bi-chloride of mercury, and the debris removed, was found to contain the wings and part of the body of a large insect.

The canal at the meatus was found to contain a mass of granulations, springing chiefly from the inferior wall. These were very firm, and were removed by a sharp curette and scissors. The mem. tympani was of a bluish color, and sodden in appearance. A powder of boracic acid and zinc. oxid., equal parts, was insufflated, and a plug of absorbent cotton inserted in the meatus, to prevent the further growth of the granulations.

October 24th.—The mem. tympani is clearing up; discharge less;

the granulations were cauterized with nitrate of silver, and the same treatment as before carried out.

Case 16.—Mary L., æt 23 years, was seen November 25, 1884, at the Infirmary. About 5:30 A. M. to-day, while asleep, she felt an insect crawl into her left ear. It caused her much trouble, but no pain. Syringing and other efforts failed to remove it.

A large cockroach, still alive, was removed by means of forceps and a blunt curette.

Case 17.—Dora M., æt 6 years, says she put a bean into the left ear a weak ago. An attempt was made on the following day to move it by syringing, but this did not succeed.

Ether given, the bean was removed in two halves by the curette, and the ear washed out with a mild solution of bi-chloride of mercury. She has had no pain. There is a slight discharge in the canal, but apparently no perforation in the drum-head.

Case 18.—Louis S., æt 7 years, came to me at the Infirmary, April 7, 1885, complaining of a queer feeling in his right ear, which he has had for about a week. He complained to his mother that his ear pained him, and as if something was running around in his ear. He doesn't seem to know when the insect first got in.

The right auditory canal contained cerumen and a cockroach, which were removed by syringing. Both mem. tympani show evidence of catarrhal changes.

Case 19.—Mary R., colored, æt 3 years, was seen June 16, 1885. Her mother says that, for two or three months, she has had intermittent ear-ache, and occasional slight yellowish, offensive discharge from both ears.

An examination showed that both canals contained some thick pus, of very offensive odor, in which several black objects were imbedded.

Syringing removed three flies from one canal and four from the other. Iodoform was insufflated, and she was directed to syringe the ears three times daily with a solution of carbolic acid.

June 19th.—No pain and canals contain a very small amount of pus, which is not offensive. Iodoform was insufflated, and the syringing was discontinued.

Case 20.—Esther P., æt 75 years, came to consult me June 27, 1885, and said that three years ago she was treated at this Infirmary. The ear was syringed at the time, when she obtained complete relief. A plug of cotton was put in her ear then, and she believed it is still there, as she feels something in the ear (right), and she herself has never put cotton in it since that time. Nine days ago she began to be troubled with marked deafness in the right ear, with the occasional sensation as if something were hurting there. She has no trouble with the left ear.

Both auditory canals filled with dark cerumen. On syringing, a large wad of cotton was found imbedded deep down in the cerumen of the right canal, all of which was removed.

Case 21.—Mamie McL., æt. 5 years, came to the Infirmary January 31, 1888. Her mother said that she had put the broken-off arm of a very small china doll in her right ear last night, about seven o'clock. Ether given; the canal swollen and inflamed; the foreign body was removed with an ear-scoop.

Case 22.—A boy, about five years of age, was seen February 14, 1888, who had put the point of a slate-pencil in the right ear, and this had broken off and remained. The canal was filled with moist scales, and the point of the slate-pencil was removed with the curette.

Of these 22 patients, 13 were males and 9 females.

9 were between the ages of 1 and 10 years.
3 " " " " 10 " 20 "
2 " " " " 20 " 30 "
5 " " " " 30 " 40 "

One was over 70 years of age, and the ages of two were unknown.

Of the various foreign bodies removed there were: 2 onions, 5 insects, 2 wads of cotton, 2 pieces of paper, 1 arm of a china doll, 1 point of a slate-pencil, 1 bean, 1 piece of a prune pit, 1 fruit kernel, 1 rubber end of pencil, 1 glass bead, 1 ivory tip of pencil, 1 kernel of wheat, and 1 oat seed.

The syringe was used to remove 5 foreign bodies.
The curette " " 3 " "
The ear-scoop " " 1 " body.
Forceps were used " 9 " bodies.
Forceps and curette were used to remove 1 foreign body.
Syringe and forceps " " 2 " bodies.
Syringing and blunt-hook were used to remove 1 foreign body.

Symptoms.—There is usually more or less hardness of hearing to almost complete deafness, depending on the size, shape, and position of the foreign body. There may be feelings of pressure or tension and subjective noises, accompanied by more or less pain, according to the irritation and inflammation of the canal, drum-membrane, or middle ear. The most serious pathological changes usually result from unskillful attempts at removal of foreign bodies, when the auditory canal is lacerated, as well as the mem. tympani and hæmorrhages occur.

There may be certain reflex phenomena, such as pain in the head, vertigo, dizziness, vomiting and cough. In one case reported by Arnold, a persistent cough with vomiting was caused by the pressure of two beans in the auditory canal. In rare instances attacks of epilepsy have been reported as cured after the removal of foreign bodies. Foreign bodies occasionally remain in the auditory canal for years without doing any harm. Zanfal relates the case of a patient who had a cherry stone in the ear for forty-two years, and Lucae removed in a plug of cerumen a cherry pit which had been there forty years.

The prognosis is usually favorable, except in cases where unskillful attempts have been made to remove a foreign body, which, besides being unsuccessful, have resulted in serious injury to the canal, drumhead and middle ear; or when the foreign body has become wedged in the deeper parts of the canal or middle ear, and severe inflammation has followed; or when the pus has found no outlet, and brain complications have developed.

In regard to the treatment, much depends on the nature of the foreign body, whether impacted or not, the length of time that it has been in the ear and the amount of irritation and inflammation of the parts. The first and most important step is to examine the ear with a speculum and otoscope, and not to rely on the patient's statement as to the presence of a foreign body in the ear, for I have seen serious harm done when this precaution has been neglected and instruments have been unskillfully used. When this accident has happened, it will at times be necessary to reduce the inflammation before attempting the extraction of the foreign body. When, however, there is but little, if any, swelling or inflammation of the canal, and the body is not wedged in, the syringe is usually all that is necessary to remove the foreign body, and it is well at the same time to incline the patient's head to the affected side. Some writers advise that the patient be placed in the recumbent position, so that the head may hang somewhat over the end of the table. In this way the upper posterior wall of the auditory canal is below the mem. tympani, and thus forms with it an inclined plane.

According to Politzer, "Injections are contra-indicated when the foreign body is the head of a pencil and its cavity is directed outwards, for then by strong syringing the water would enter the cavity and force the body inwards and cause it to be impacted; also when the membrane is perforated, as these injections would cause dizziness, or the water would escape by the Eustachian tube. Zanfal recommends the injection of oil instead of water in the case of foreign bodies likely to swell. Politzer considers this unnecessary, because "In cases in which the body cannot be got out after several strong water injections, its enlargement may be prevented by immediately pouring alcohol into the ear."

In a paper on foreign bodies published in the *Archives of Otology*, vol. xv., p. 222, A. Hedinger mentions the results of some experiments in regard to the swelling of three peas and one bean, and says, "that leguminosæ naturally swell most in water, 1½–3 mm.; next in oil, 1–1½ mm.; in glycerine they remain unchanged. A bean which had lain sixty-four hours in water, when placed in glycerine, shrunk from 9 mm.–11 mm. to 7 mm. and 10 mm. respectively." He recommends that in future oil or glycerine should be used to syringe out this class of bodies. As glycerine is unsuitable for use in the syringe by reason of its weight and adhesive quality, oil should be used instead, as the leguminosæ do not swell immediately when placed in oil. Instillations of glycerine should be resorted to "in case the removal of the body is possible only with great trouble on account of the swelling, provided there is no danger in delay." He further advises that if syringing with oil proves ineffectual, that daily instillations of glycerine are indicated. For the same purpose Weiss's mixture, equal parts of ether and alcohol as given by Zanfal, is sometimes used. Hedinger further recommends inflations of air through the Eustachian tube by means of the compression pump for the removal of foreign bodies in the auditory canal when the drum-head is perforated, and also when they have been forced into the tympanic cavity.

In the case of insects, it is well to kill them first by instillations of oil, when they can then usually be removed by syringing. For living larvæ, when present in the auditory canal, Roosa has used Labarraque's solution of chlorinated lime to kill them, as well as the vapor of chloroform. It is necessary even then, in some cases, to remove them with forceps. Kohler recommends oil of turpentine for killing the larvæ of flies in the canal.

When the syringe fails it will be necessary to resort to instruments, of which all sizes and shapes have been devised for the extraction of foreign bodies, viz., forceps, blunt and sharp hooks, curette, loop of wire, scoops, etc. No one instrument is suitable for all cases. It is at times necessary to anæsthetize the patient before resorting to the use of instruments, especially when the body has become wedged in the deeper portion of the canal and in the case of small children.

Loewenberg has revived an old method of removing foreign bodies, which consists in dipping the point of a camel's-hair brush into a solution of glue and then touching with it the foreign body, which has previously been dried, and leaving it there until the brush sticks and then withdrawing it with the foreign body attached. This method is best adapted to round, smooth bodies and to those liable to swell, and also in those cases when there is no discharge from the meatus, which would prevent the glue from drying.

Politzer recommends warm water injections through the Eustachian tube in cases of deeply impacted bodies liable to swell, and when the mem. tympani is perforated.

Voltolini removed a bean which had been forced down through the drum-head through unskillful manipulation by dividing it piecemeal with the galvano-cautery.

Occasionally it becomes necessary to detach the auricle and posterior wall of the cartilaginous canal when the foreign body has become impacted in the bony auditory canal or forced into the middle ear. Such cases have been reported by Schwartze, J. Orne Green, Roosa, Buch and others.

Nothing but the syringe and warm water should ever be used by the physician in the case of a foreign body in the ear unless he understands thoroughly the use of the speculum and head-mirror, and he has had great experience in the treatment of aural patients.

ARTICLE II.

SOME PHASES OF THE CIVIL LAW IN RELATION TO THE DEVELOPMENT OF MAN.

By J. W. C. CUDDY, A.M., M.D., Professor of Materia Medica and Therapeutics, and Clinical Medicine in the Baltimore University of Medicine.

The tendency in these latter days to restrict and divide medical lines causes one to be careful in his selection of a subject for a certain section, lest he may tread upon grounds held sacred by other and near workers. Medical jurisprudence is not so broad in its scope to-day as it was in the years gone by, and although it may be a misnomer, yet, taking an old definition, which I hold to be a true one, that medical jurisprudence " embraces all those questions which bring the medical man into contact with the law," including those which affect the civil rights of individuals, as well as injuries to the person, I claim that my subject is a proper one for this section. I therefore desire to present (and take great pleasure in doing so) a brief paper on Some Phases of the Civil Law in Relation to the Development of Man.

The development of man is dependent not only upon the law of natural growth, but upon the various surroundings which are permitted or compelled to exist in the society in which he lives. From his entrance into this life to his exit from this world of ours, his comfort, aye, even his very existence, is endangered by circumstances which must be controlled by the physician, and which must be overcome by the mandate of the law. Then, if through a knowledge of medical lore, combined with the aid of legal interference, we can secure the enjoyment and prolong the life of the individual, we are performing a work which must call forth the admiration of mankind.

This paper, though necessarily brief, is intended to include the growth of both the physical and mental powers of man, or all those attributes which tend to fit him for the complete labor or perfect enjoyment of that high scale of life in which he has been placed by the Creator. Therefore, we will be obliged to follow the various stages into which his natural life has been divided, and then see if during any of these five periods—viz., Infancy, Childhood, Youth, Manhood and Old Age—anything can be suggested by which his proper development can be assured, and his physical and social status consequently perfected.

In infancy the individual is dependent entirely upon aid from others for every necessity of life. In this stage he has, by inherency, the right to proper nutriment for the development of his physical frame, and it is our duty as preservers of health, as well as curers of disease, to see that this pabulum is of the proper kind for health-giving and life-developing purposes. At this age he merits our best and constant attention. And although it is an important duty to thwart disease, and push aside the cruel hand of death raised against those in advanced life whose labors are already nearly completed, it is much more important to use our utmost endeavors to save the lives of the little ones, in whom are centred the fondest hopes and affections of loved ones, and whose powers are ready to develop themselves for the joy of their parents, the glory of their manhood and the benefit of human society.

Fortunately, in the majority of cases a wise provision of nature relieves us of this care and anxiety. But yet there are annually thousands and hundreds of thousands of little ones who, by disease or death, or through caprice and fashion's foibles, are left without the life-giving fluid of the maternal breast. And just look at the dreadful mortality of these non-naturally fed infants. When we consider that from 60 to 80 per cent. of these die annually, the thought is appalling, and we must naturally look for a cause of this fearful mortality list. In a large majority of cases I verily believe that, could the truth be carved on the cold marble slabs which mark the little graves that honeycomb our cemeteries, or the cause of death be written with exactness upon the innumerable mortuary reports which crowd our registrars' offices, there would stand out in unmistakable, fearful letters the single word—*starvation*.

In many of our large cities in which the death rate is the greatest, the quality of the milk upon which these infant sufferers are fed is far inferior to what humanity and the law should allow. Poor milk, from a low grade of cattle, is often largely diluted, and then jolted around for hours over our rough streets before delivery, after which a thoughtless physician directs that it be weakened with from one-third to one-half its quantity of water, which quantity is even frequently exceeded by careless mothers or ignorant nurses.

Such being the case, with sickness and death as the result, the question naturally arises: How can this be averted? I answer: By a conscientious vigilance on the part of the physician, with the interposition of the strong hand of the law. In this broad domain of ours there are not half a dozen States which have upon their statute books a single line to aid their citizens in obtaining a pure article of food for this helpless class, or for the prevention of the sale of the most impure article, which could only redound to their injury or death.

The point that I make, then, is this: That every State should have a law, or that there should be a national law, full, concise and comprehensive, which would make it a criminal procedure to engage in the sale or distribution of any milk which was not up to a high standard of purity, and that its supervision should be entrusted to men only who are scientifically educated and thoroughly competent to discharge the duties entrusted to them. Could such a law prevail and its provisions be honestly enforced, a new era would dawn upon our infantile class. Days and nights of torture would be avoided; long and painful attacks of disease would be blotted out, and the lives of thousands and thousands would be spared, in order that they might grow up to be a benefit to the community and an honor to the nation.

Unless milk of the very best quality can be procured in tolerably near proximity whereat it is needed, we should look for other and different sources for infantile feeding. The very best, and, in fact, the only substitute that can be offered until this present suggestion become a universal law, is that which is prepared by condensation, that method which places the life-supporting property of the milk in a reduced form, fit for transportation, and always ready for immediate use.

In the preparation of this condensed milk, in which a large amount of capital is invested, and where the success of the project, or its continuance, is dependent upon its purity, with results satisfactory to families and physicians, great care is, as a matter of course, exercised, and we may consequently rely upon always getting a good article, with the exception of so small a number of failures as will inevitably result in the prosecution of so large a trade. I therefore invariably advise its use among my own patients, and commend it to all where the artificial feeding of infants is required.

My limit of time has compelled me to glance merely at this interesting section of my subject. However, if its suggestions were fully carried out, thousands of infants who are annually dying prematurely, and from want of food, would surely be saved. By its method a class of infants, with sound and vigorous frames, would pass through this dread crisis and safely reach that second stage of life which we will now consider.

The second stage in the life of the individual, according to the present arrangement, is an extremely important one. Childhood is the formative period for many of those characteristics, which will tell for the well, or ill-doing of the future man. During this time more is needed than nourishment to sustain the physical body. The brain is now rapidly developing, and food for the mind must be procured. Then, the only important point for this division of my paper is *the education of the child*, which, I contend, demands the wholesome guidance of the law, with unceasing watchfulness on the part of the guardians of the health. The question of the manner of education is not easily solved, but if the assertion be true that "the purpose of government is the attainment of the greatest possible welfare for all," it does seem to me that a universal plane of studies should be arranged, and that all classes should be allowed, or compelled, as the case may be, to participate therein. Then I lay down this broad assertion, that *general*, *obligatory*, and *gratuitous* instruction should be furnished. I will not make use of the unsatisfactory expression *compulsory education*, for, with some beings the acquisition of knowledge is just as unreasonable, as that "a bird that can't sing should be made to sing." I would, however, insist upon a *compulsory attendance* upon school duties of all children as soon as they reach the proper age, and that it be continued for a certain term of years. This gratuitous and obligatory course of instruction, I would not wish to see extended to high schools, colleges, and universities, but it should apply to the common, or people's school, on which depends the whole bright future of the nation and of humanity.

If a certain line of action will conduce to the general good, or be of benefit to the masses, then it is evidently the duty of the government to make such action binding by statute, with provisions for its prompt enforcement. That education, or the increase of general knowledge contributes largely to the successful and happy development of man, there can be no doubt. In fact, it has been said that "the best medicine for suffering, crime, and all the evils of mankind is wisdom." It certainly does lessen crime, elevate morals, produce comfort, and tend to longevity. In opposition to this it has been argued that some of our greatest criminals have been men of fine education; but if statistics be carefully examined, it will be seen that such cases are extremely rare, and exist only in the smallest minority. It is quite true that occasionally some finished scholar may commit a crime of the deepest dye; that sometimes a well-known "ministerial light" may be suddenly obscured by a social cloud, and his devout followers left to seek a new leader; and even once in a long time an educated, polished, and refined bank official may be seen taking the night express for Toronto. But these are sporadic cases, and occur just as you may see instances of zymotic diseases cropping out where the best sanitary regulations have been enforced; or even cases of smallpox developing where the accustomed law of prevention has been duly observed.

When a universal and compulsory school law shall have been secured, a great duty will then devolve upon physicians and sanitarians to use their knowledge for the prevention of those influences so prejudicial to the health of the children, which frequently exist, and which may often leave their effects upon the constitution for life.

There are many sad effects resulting from an imperfect school system, or from incompetent managers, which might be easily obviated if the schools were placed under supervisors of proper qualifications. The most prominent of these disastrous results is the development of diseases of the nervous system, and various affections of the organs of sight. Dyspepsia, chorea, and neurasthenia are some of the diseases incident to this stage of life, and are, no doubt, caused by improper methods of study, combined with bad sanitation. A great preventive agent of the proper development at this important period is the alarming numbers of cases of color-blindness and nearsightedness with which so many children are afflicted. This latter affection—myopia—increases with fearful frequency during school days, being caused by the badly-managed lighting of school rooms, with long-continued work at short range of vision. This one malady is serious enough in itself to call forth the attention of all who are interested in the better development of the child, and his fitness for an after life of usefulness. Thus afflicted, he will be rendered unable to enjoy the pleasures guaranteed to others with perfect vision: he will be disqualified for many vocations of life, which might lead to comfort and to fortune; and above all, his unfortunate condition will impair his credibility as a witness, where great financial interests may be at stake, or even the safety, or the life of human beings may be involved.

This evil certainly demands our attention, and calls for a remedy. It can be met, I believe, satisfactorily by the adoption and careful following of such a resolution as has been proposed in my own city, but which, I am sorry to say, has not yet received the approval of our Common Council. It has been advised that there shall be a Sanitary Superintendent, who shall be a physician and recognized expert in sanitary science. There is so much in the education of the children of our land that calls for an officer of this kind, that I think it now an imperative necessity. Under his supervision the construction of school buildings could be done in accordance with science; all books containing paper or printing which might be injurious to the eye could be excluded; and in fact all obstacles that would hinder the physical and intellectual advancement of the pupil could be brought at once to his observant eye, and thwarted before making serious inroads upon the health of this rising generation. With such a law, and with strict observance thereof, this class would be able to enter the third and important stage of life with the health and intelligence which our age and country demand.

The period of youth, or that time of life which extends from the termination of childhood to the beginning of fully-developed manhood, is fraught with interest to society at large. With strong physical frame, and with a well-developed mind, the individual is now fitted to pursue diligently one of two ways of life which he may select for his future journey. He may continue his course, if inclined, along the intellectual path, and, by its various gradations, qualify himself for the many higher callings in business life, for professional duties, or scientific research. On the other hand he may, either through inclination, or by the stern law of necessity, step out into labor's great highway, and begin his tiresome march toward the goal of success. Taking up for consideration the latter of these two divergent roads, we will see what is needed to keep up the developing powers of the youth, and fit him for higher duties. If his scene of labor be out amid the broad and fruitful fields of rural life, but very little of outside influence will be needed for his general welfare. His now rapidly growing frame can be nourished with the best and purest of unadulterated food; generous and unerring nature, with her pure atmosphere, her drenching rains and drying sun, will give all needed sanitation; and for the little time which he can devote to literary pursuits, he may find "tongues in trees, books in the running brooks, sermons in stones, and good in everything."

But if his lot be cast in some populous city, with its narrow and contracted streets, with dark store-rooms, with overcrowded workshops and ill-ventilated factories, his position demands a careful oversight, and needs the controlling influence of the legal and the medical mind. The strong desire for gain in these latter days, causes many employers to care but little for the toiling youth and his health and happiness; and long hours of labor in stifling air has dwarfed the growth of many a promising lad and sent him to an early grave. Long continued cases of exhausting diseases, many of which run into incurable maladies, may be traced to criminal neglect, in the want of the observance of proper sanitary measures. Timely and truthful are the words of Playfair, when he says: "In modern hygiene, nothing is more conclusively established than the fact that vitiated atmospheres are the most fruitful of all sources of disease." With a certain knowledge of such existing facts, the obvious remedy is the honest supervision of a competent sanitary inspector, or a board of medical men whose only aim and interest should be the health and the physical development of this laboring class. These are the young men who are to be the future tradesmen, artisans and merchants in the world's busy highway; and if their natural growth and development be retarded and their usefulness impaired by any overt act or concealed neglect on the part of those who employ them, it should be considered a criminal offense and proper reparation should be demanded and exacted by law. That there does exist in many of the States a law regulating the number of hours of labor for minors, is well known, but if in its execution it could have the careful surveillance of men who thoroughly understand the laws of health and disease, greater good could be accomplished, and a healthier class of individuals would be given to the world.

The other route by which youths may travel on to complete manhood, is, as before mentioned, the scholastic, in which careful training is demanded, and which calls for our especial notice. During the youthful period both body and mind are in a state of the greatest activity, and proper teaching is necessary so that they be not injured by too much or too little exercise. The mistake is too frequently made by educators that the brain needs all the culture, and through culpable neglect the body is thus left uncared for, and consequently undeveloped. Physical exercise is just as necessary as brain exercise ; and to this end the gymnasium is just as requisite in our high schools and universities as are books and class rooms. This useful adjunct to a thorough physical and intellectual development bears the stamp of antiquity, the approval of all ages, and the endorsement of the leading scientists of the present day. Hippocrates, Galen and Solon endorsed it in their teachings, and in Grecian schools its valuable results are matters of historic interest. The remarkable health of the Greek race, their brilliancy of mind, and above all their beautiful symmetry of form, unequalled by any other nation on the globe, are entirely attributable to this method of education. The various calisthenic exercises practiced in our gymnasiums should not be now regarded as a mere supplement to mental training, or as a pleasant pastime; for, according to highest authority, it is stated that, by its motor impulse of the nervous organism, it directly aids in brain culture. Such being the case, the proper authorities should see to it that all schools should be well provided with suitable appliances, and that no State educational institution should receive its charter until all the requirements of a combined intellectual and physical training are thoroughly complied with.

That the public mind is taking hold of this subject and beginning to realize its importance is evidenced in the fact that some of our large cities are supporting what are known as training schools, and that many of our leading colleges are adding gymnastic studies to the curriculum, with special teachers for that branch. Amherst College, in Massachusetts, has made ample arrangements for this particular study. Dickinson College, in Pennsylvania, by a generous gift of a noble son of that State, has secured one of the finest buildings, with the best equipments of any school in the world, while our own Johns-Hopkins University, of Maryland, makes physical training one of her main studies. This is directly in accord with the idea which I am now endeavoring to advocate, and which is tending toward the more perfect development of our race. What is further needed (and this is a suggestion which I have not yet seen urged) is that the professor of physical training should be a medical man—one who thoroughly understands the physiology and the pathology of the human body, and especially of the circulatory and respiratory apparatus. This knowledge is undeniably requisite to a complete fitness for the position, whereby he can know the student's power of various organs for physical endurance; to restrain him when over-exercise may do him bodily injury; and be able to relieve him when such accident does occur. This method of education will bring about a correlation of physical and mental forces which no other system can do. By such arrangement the strong and shapely form will accord with the vigorous and brilliant mind, and the sturdy youth with *mens sana in corpore sano* will develop into that perfect man which I am endeavoring to portray.

By our line of development we have now brought the individual up to the full stature of manhood. In the great rule of life, however, there is no cessation here in the onward progress of man. There is continually going on a rapid succession of cell change, although by the divine law of limitation the body ceases its growth, *except in some cases of corpulency obtained through a good digestion and a clear conscience.* The continuance of the same laws of industry, hygeine and mental culture is still required, for it is man's duty, now, to work for the great aims of life,—health, happiness, the elevation of society and the perpetuation of the government. Education does not cease with the years of the youth, but the grown-up man must continue his intellectual development. As the human mind is fed by constant accessions of knowledge, the intellect advances correspondingly toward perfection, which fact must produce a revolution in society. A sound and healthy brain, with a well-developed physique, will advance the individual toward truth and honesty; and with these attributes there must come a diminution of crime and a corresponding increase in morals, making our citizens an energetic and industrious class of people, with a probability of harmonizing those giant powers, Capital and Labor. This would bring about an increase in prosperity and a general elevation of our race.

Man, in his completeness, is guaranteed, among his inalienable rights that of life, liberty and the pursuit of happiness. These can be obtained only through wise legislation which will secure him immunity from disease, and protection to property. To this end there should be perfect laws with just administration; and, while there is much room for improvement, in many respects, time will permit me to mention but one, the improvement of which would be of great and lasting benefit to mankind. I allude to the jury system, the pride of the descendants of Alfred, and the boast of English lawgivers, but which, even to this day, is imperfect and badly managed.

In either civil litigation or criminal process, man is assured by the written law that he shall have a jury of his peers. In practice, however, this is often denied him, owing to the unwillingness of many of our best citizens to serve in that capacity, and the great desire on the part of many ill-qualified persons to fill their places. To obviate this defect, there should be blotted out many of the local laws which give exemption to so large a class of our people. In examining the codes of various States, I find that as the law exists, almost every man who wishes to be relieved from jury duty can be accommodated. Those who may be exempted include firemen, keepers of poor-houses and asylums; those who keep Saturday as Sabbath; every officer, musician and private of the National Guard; delegates, coroners, constables, school teachers, and, strange to say, honorary members of home military companies. Thus, by the payment of a nominal sum, an intelligent and reliable citizen may have his name placed upon the list of honorary members of some regiment (not a member of which will probably be called for active duty while he may remain connected therewith) and be forever relieved from proving his good citizenship, and from serving his State in that capacity which its laws should demand.

Should there be no remedy for this serious fault and our juries continue to deteriorate, the time will soon come when the only persons who will obtain the full measure of the law as far as being tried by their *peers*, will be those of the criminal class. I would suggest that the clause exempting the above-mentioned classes be stricken out, and that every educated citizen be subject to such duty, unless excused on account of defective sight or hearing, or other physical defect, when recommended by a competent medical board.

Could man be thus developed through the means laid down in this essay, starting with pure nourishment, then properly educated, both physically and mentally, and carefully protected in mind, body and estate, there could be no earthly reason why his resources would not be enlarged, his happiness increased, and his age greatly prolonged. The stage of manhood would not then be limited to so short a period, but after long years of fruitful labor, seasoned with pleasant recreations, he would pass into the evening of life, with a consideration of which we will briefly conclude this paper.

With a life properly spent, old age need not run into "second childishness and mere oblivion." That period of man's "eventful history" may be made one of peace, contentment and joy. Industry, thrift and care will bring enough of this world's goods to make the autumn of life a time of perfect ease. The professional man, tradesman, agriculturalist and merchant will have had ample opportunities for securing a competency whereby his declining days may be rendered comfortable. There is, however, a certain class of people who need especial notice, and for these I make a suggestion which, although a novel one, I am sure, upon careful consideration, will be regarded as eminently proper. Those persons who for weary years are kept at tiresome work in behalf of the country in which we live, who protect our lives and property, who educate our children, and who keep steady the ponderous machinery of our Government, are entitled to careful consideration in their advanced lives. I believe that it would be a wise measure if all our municipal, State and national officials who reach old age with a clear record of integrity and industry could receive at their retirement from public position a perpetual annuity of an amount sufficient to meet the ordinary expenses of living. It would encourage sobriety, promote honesty, and be the means of obtaining capable employees. Such an assurance from the Government would produce contentment of mind, which, in its turn, would make suicides more rare, would lessen the number of inmates of insane asylums and almshouses, and fill our land with happy homes. The amount thus saved would, I have no doubt, be ample with which to meet these claims, without increasing the taxation of our citizens.

The ideal man, whose development I have attempted to scan, is now placed before you. His whole life can thus be made one of enjoyment to himself and of benefit to his race. Perfection may become the rule instead of imperfections, as they exist to-day. And when, according to Nature's laws, his course is run, the end may be calm and quiet, as—

> "Like a clock worn out with eating time,
> The wheels of weary life at last stand still."

Even in his closing hours, as in his busy days, his ennobling attributes will be observed, and as he passes from the gray sunset of the present into the rosy sunrise of the beyond, we may use the language of David, and exclaim: "Mark the *perfect* man, and behold the *upright* man; for the end of that man is peace."

ARTICLE III.

ECLAMPSIA AND EPILEPSY, AND UNCONTROLLABLE VOMITING, COMPLICATING PREGNANCY.

Reported by CARTER S. COLE, M.D., Charity Hospital, N. Y.

The following is the history of an interesting case that occurred on my service as senior assistant at the New York Maternity Hospital. Dr. H. J. Garriques was the visiting obstetrician and has kindly consented to my reporting the case. Dr. F. C. Wells was house physician, and Dr. F. L. Wells, junior assistant.

Katy C——, æt 20 years, married, prima gravida, gives the following history:

First.—Menstruation at thirteen; last menstruation, August 1, 1887. Quickening in January. Insolation at four years and thereafter up to time of beginning menstruation, repeated attacks of *le petit mal.* After menstruation was established, an attack of epilepsy, announced each recurring menstrual period. After conception, before her entrance into the hospital, she had only one epileptic attack and that occurred in her second month. She entered Maternity Hospital on March 24th, suffering somewhat from nausea and vomiting. The lungs, heart and urine, on examination, seemed to be all right. From Thursday March 30th to Thursday April 6th, the vomiting was incessant and yielded to no form of treatment. The patient was getting weaker, and it was decided to resort to rectal alimentation, and, preparatory to this, an enema of fel bovis and soap-suds was given at 9.30 A.M., April 5th, and was followed by a fairly abundant, green-colored stool. An hour and a half later, the patient was tossing from one to the other side of the bed, complaining of intensely acute pains in her side and through her genital canal. For several days she had complained of violent headache and pain in the epigastric region, and now there was added, at intervals of twenty seconds, twitchings of the muscles of the face, followed by convulsive movements of the whole body, the patient rapidly flexing her thighs until they rested on the abdomen, and as quickly straightening out her lower extremities, and accompanying these movements were shrieks of pain. The uterus, too, seemed to take part in the general convulsive movements. A few inhalations of chloroform allayed the pain and quieted the patient, and she (apparrently) slept for fifteen or twenty minutes, after which there was frothing at the mouth and less-pronounced convulsive seizures, quickly followed by a stupor, from which she could not be roused until 1.40 P. M. During the stupor there were at times muscular twitchings and convulsive movements. The pulse was 120; respiration 28; rectal temperature 99.8. At 12 o'clock, while she was in a stupor, an enema of potassium bromide and chloral (āā gr. xxx) was administered; but not more than half of it was retained. With the return of consciousness, at 1.40 P. M., all convulsive movements disappeared, to reappear at 2.30 P. M. Dr. Garriques had been notified meanwhile, and, though unable to come over immediately, ordered the patient two drops of croton oil on butter and a hot, wet pack. These were given as directed, at 3.25 P. M.; but she was taken from the pack in thirty minutes, as it greatly depressed the heart's action and produced no diaphoresis. During the remainder of the afternoon she was quiet. An examination of the urine, drawn by catheter immediately after the first seizure, showed about twelve per cent. albumen, a few hyaline, granular and granulo-hyaline casts, renal epithelial, white and red blood cells, some granular debris and amorphous urates. Dr. Garriques came over about five o'clock and made an examination. He found the vagina exceedingly hyperæsthetic; no dilatation, and a rather rigid os. He advised against the induction of labor and ordered nutritive enemata of pepsin gr. x, whiskey ℥ss, milk q. s. ad. ℥iv, to which the yolk of one egg was added. Of these she received one at 7 P. M. and another at 10.35 P. M., after which she slept until 4 A. M.

April 6th.—Patient vomited at 4 A.M. and had several loose movements from her bowels. The day passed by uneventfully, the patient receiving nutritive enemata every four hours. She vomited at 7.30, 9.00 and 9.30 P. M., and rejected an enema given at 10.30 P. M. According to Dr. Garriques' suggestion, she was given every hour a tablespoonful of strong black coffee (without sugar or cream); this was begun at midnight. The amount of the urine was not measured, although it was small; the character was improved; only four per cent. of albumen; and fewer casts and cells were found.

April 7th.—At 12.30 A. M.—An enema which was rejected. The patient slept from this hour until 5 A. M., except for a few minutes at intervals of an hour, when she received a tablespoonful of black coffee. The patient vomited all coffee given after 7.40 A. M., and rejected a nutritive enema given at 10.30 A. M.; so it was decided, the idea being suggested by her expressed desire to have milk, to try peptonized milk. This was done, one drachm to the half ounce being administered every twenty minutes, and up to 9.30 P. M. none of it was refused by the stomach. A nutritive enema, at 2.30 P. M., was thrown off, but another at 6.30 P. M., to which was added tincture of opium m. xx, was retained. At midnight patient complained of heartburn, and received a pepsin and bismuth powder. The quantity of urine, which was measured carefully, only amounted to four ounces for the twenty-four hours, so the kidneys were cupped. The character of the urine was about the same as on April 6th.

April 8th, a nutritive enema at 2.15 A. M. not retained, and, soon after, while the nurse was out of the ward, the patient dragged herself to the bath-room, where she gorged herself with water, the result being a spell of vomiting repeated at 5.30 A. M. From this time on she received two drachms of peptonized milk every fifteen minutes, and every four hours a half ounce of sherry wine. Nutritive enemata were discontinued. A slight vomiting spell at 5 P. M.—the only one since the one above noted (5.30 A. M.). The urine had increased in quantity; nineteen ounces were passed, and only a trace of albumen with no casts and very few cells.

April 9th.—Patient much improved. Same treatment continued, except that the quantity of peptonized milk was increased to a half ounce every fifteen minutes and all nourishment retained. Urine passed, over twenty-five ounces, and no cells, casts nor albumen.

April 10th.—Patient about the same, save a marked flushing of the face. Labor pains begun at 10, P. M., and labor was completed in three hours, and twenty-five minutes, the child, a girl, weighing five pounds fourteen ounces. The pulse was rapid for five minutes after delivery, and the patient showed a tendency to become comatose. Stimulants brought her around all right in fifteen or twenty minutes.

April 11th.—At 3 A. M. the patient received peptonized milk ℥iij, and at 4 A. M. chloral, gr. xv, and a milk punch. The first and last were alternated every two hours, and the second administered three times this day, to be substituted by bromide of potash (gr. xv.) the following day. In the afternoon patient complained of headache and pains in her back.

April 12th.—Same treatment and patient about the same.

April 13th.—Patient complains of pains in her chest and head.

April 14th.—Patient feels first rate and urgently requests the discontinuance of the potash, to which acquiescence was given after 6 P. M. Regular convalescence diet given from this time on.

April 15th.—Patient feels well. One dose of bromide of potash (gr. xv.) at 8 A. M.

April 16th.—At 5.10 A. M., patient had an epileptic fit which lasted thirty minutes, after which she had an intense headache. Bromide of potash was again administered (gr. xv.) four times a day. At 5.20 P. M. patient had another seizure which only lasted five minutes, but was followed by a severe headache. After this convalescence was normal, except for one epileptic seizure on April 23d.

May 14th.—Discharged from hospital mother and child in first rate condition.

There are several useful lessons to be learned from the case. First of all, the wisdom—justified by the result—of not inducing labor, but allowing it to come on in its own time. Secondly, the great service rendered by small doses of peptonized milk frequently repeated. And lastly, the value of perseverance and unremitting attention. I have made the report full and complete, as the importance of the case seemed to warrant it.

ARTICLE IV.

SUGGESTIONS TOWARD A MORE RATIONAL PROCEDURE IN WASTING DISEASES.

By SAMUEL S. WALLIAN, A.M., M.D., New York.

In a paper which I had the honor to read before the recent International Medical Congress, I made the assertion that 'beyond the supplying of direct or indirect nutrition, and the clearing away of obstructions, human skill is powerless to add a single nerve-throb or heart-beat to the vital stock of any organism. In other words, aside from the removal of accidental or incidental interferences, with functional activity and the supplying of the needed elements for growth, sustenance and repair, in their most available form, there is no substance in the universe—call it what you will—medicine, mystery or moonshine—which can be made to add a single moment to the life, or a single jot or tittle to the strength of any organized being.'

This may be a somewhat extravagant statement of a very evident fact.

A few phases of the study of medicine—using the word in its broad and comprehensive signification—are susceptible of scientific treatment and classification. For example, surgery is rapidly developing the outlines of an exact science. Physical diagnosis, too, is approaching a degree of precision which will one day permit it to be ranged among the semi-mathematical branches. Of medicine, in the limited sense of the term, aside from the occasional exhibition of chemical antidotes and antagonists, the administration of the ordinary products of the pharmacist is entirely without any real, or even pretended basis of science. That department of medical art, however, which deals with nutrition, in its most comprehensive relations, is susceptible of being developed by inquiries approaching scientific accuracy. But there is no science in the hollow insinuations of the hypodermic needle. The drug dose, however well-prepared and deftly exhibited, goes, nobody can foretell where, and results in nobody can certainly predict what, changed condition of the functions. But the sustaining pabulum, the needed modicum of nutrition, has definite and thoroughly reliable relations to the integrity of the entire organism.

And this is the field in which we must delve for the best future results. Heaven knows we have already a surfeit of drugs, and they are so "elegantly prepared" that nothing more can be hoped for in this direction. The danger is, that in the bewildering multiplicity of claims set up for them, we shall become hopelessly confused and lapse into distrust of the whole category, or else take to prescribing them by routine, reckless of expected results, and trusting wholly to the rose-colored allegations of the trades-union pharmacists.

Of proprietary nutritives and dietetic preparations we have whole platoons on every side—each put forth as a desideratum by its advocates. Why is it that so many of them fail to meet our expectations? Why do they more frequently fail us, in the trying moment, than they succeed in bringing the starved sufferers back to life and strength?

The two hydra-headed monsters, which annually devour their legions and despoil the brightest family circles in the land, with relentless regularity, are consumption and dyspepsia. The consumptives all die, virtually, *for want of available nourishment*; and this, in spite of the fact that we ply them with every sort of food preparation, dainty and concoction which money can buy. Though fairly surfeited with viands, they gradually famish before our very eyes, and we feel ourselves powerless to stay the inevitable end. Now, the vaunted bacillus tuberculosis may be invariably present in phthisis, and intimately associated with the pathognomony of the disease; but there is no fact better established than that no germ thrives in soil which has not first been prepared for its favorable reception. Phthisis may exist without the over-estimated bacillus; but it never exists without the lowered vital condition—that marked depravation of the tissues, which is the direct sequence of *innutrition*. We still limp in the vital matter of feeding our patients. Not that they are not fed enough as to *quantity*, or that what they eat is not good enough as to *quality*.

See the endless list. Read the florid claims of the proprietary preparations. There is the omnipresent and omni-disgusting cod-liver oil, theoretically so good and practically so puerile, plain and in countless emulsions. And there are the meat extracts, without number, which are also, as a rule, too frequently either delusive slops, or nauseating and indigestible masses. There are "kefir" and "koumiss"—adroit methods of administering a little "toddy" under false pretenses. And there are the baby-food cereals, variously named, and bunglingly disguised agglomerations of glucose and gluten(?); and there are the nameless groups of malted slops—the bogus nectar of the modern deities, who reign in this paradise of nostrumdom. The proprietors of all these catch-penny foods gather a good living from them, it is true, but it is not by consuming them. They are "elegantly prepared," temptingly sugared and flavored, and glowingly labeled—for sale! And we stuff our consumptives and dyspeptics with them *ad nauseam*. But the poor deluded patients die all the same—not for want of food, but *for want of nourishment*. And here is the great block of physiological stumbling. We cram them with the chemical elements which science has told us they need, and we ply them with pepsin and hydrochloric acid and pancreatin, in the vain hope that their jaded and overloaded stomachs can appropriate the conglomeration. Alas, that the abused stomach had not a tongue to tell its trials and its wants!

The trouble arises from the negligent and unheeding manner in which we have inquired of the chemists, and the lame responses the chemists themselves make when we ask them to formulate the principles which control and regulate vital chemistry.

We know exactly how to feed our track horses and our prize bulls, in order to make the most of their points; we know how to fatten pigs and geese and turkeys. We can even supply a developing dietary for stupid mollusks at the bottom of the Chesapeake Bay, but we do not yet know how to feed a human dyspeptic or a consumptive. In spite of the hundreds of flourishing proprietary food factories, the one goes on suffering and the other goes on dying. To relax effort and passively assume that there is no remedy, is to confess that our art is a stupid failure.

To nourish a human being, two things are necessary. First, that food of proper quality shall be supplied in due measure. Second, that means shall be taken to see that it is *properly digested and assimilated*.

What does the invalid most need? Evidently that form of nutriment which is most readily and completely converted into sound tissue. All authorities are in accord in asserting that plants are the original source of all food; but that the weakened digestive organs can appropriate it easiest, at first hand, or directly, is disproved by every physiological observation. The lower animal refines the elements, and prepares them for more facile appropriation by the higher. Hence, we do not look for the best and readiest material in wheat, or oats, cabbage, or corn ; but sensibly strive to appropriate the albuminoids and proteids as they are found in flesh. Yet the mere meat juices and raw blood preparations have signally failed, and are becoming a stale drug in the market. They have had their brief day, and have been voted a delusion and a snare, a costly delusion and a cruel snare. They pacify, or they stimulate, *but they do not nourish.* They are neither more nor less than inspissated beef tea, and beef tea leads the list of delusive nutrients.

The chopped muscle of beef, so much overdone by the Cleveland enthusiast, was a great advance over the days of beef tea and chicken broth ; and for a class of semi-robust invalids it has worked some, at least temporary, wonders. But this, too, is inapplicable to the very class of cases most in need of aid—the countless army of digestion-fagged and lung-collapsed consumptives. What shall we feed them ? They loathe what we urge upon them, because they cannot utilize it ; yet they are slowly starving for want of it. *Evidently we must digest it for them.* At least, we must temporarily relieve their flaccid and rebellious stomachs from the brunt of their duties. How shall we do this ? Lavage and gavage have a limited range of availability, but they are auxiliaries, not prime factors. Besides, gavage is only a general name, and not a definite and always feasible process. It may be helpful or harmful according to the subjects selected and the substances introduced. It provides the fuel, whether there is any fire at hand to burn it or not; and the fuel itself may be good, negative or bad, according to the judgment used in selecting it. The rational resort readily suggests itself, namely, *digested or peptonized food.* Peptonized milk has its advocates and its merits ; but it is better adapted to babes than to adults. Egg albumen is not a perfect food—especially if it be from *fish eggs.* Our final refuge is necessarily the flesh peptones. These are the available aliments ; they are comprehensive as to their proximate constituents. They can be prepared so as to be generally palatable, and to have keeping qualities. And preparations having all these characteristics fortunately, are to be had—a few among the many fluid beefs, and flesh extracts. If I mention the one which easily leads all the rest, as an ideal predigested aliment, it will not be for the sake of lauding an advertised preparation, which has only the ring of advertising guineas to bolster it ; but for the sake of recommending the grain I have found in the midst of oceans of chaff. I refer to the *sarco-peptones*. I do not know the company producing this form of food and have no knowledge as to its genuine popularity or their success. (All the manufacturing proprietors claim enough on this score.) For this reason I may speak more fully as to the merits of this particular example of the many prepared and much advertized food products. And I speak thus freely, in the face of the fact that medical hack-writing is so common now-a-days as to be considered a matter-of-course. I only know that their published analysis appealed to my judgment, and that clinical experience has corroborated the theoretical inferences drawn therefrom. Patients take this preparation with as much zest as patients ever show for anything, and they gain strength and body weight while they use it. Nor do they tire of it as of most prepared foods.

One item it lacks, as do all forms of prepared foods. That is, the power to supply *an increment of oxygen to correspond with the increment of aliment introduced*. This is no fault of the food.

But, by one or another means, this increment of oxygen must be secured, in any case, if permanent relief is to follow.

" In the animal body the carbon and hydrogen of the vegetable are again brought into contact with the oxygen from which they had been divorced and which is now supplied by the lungs. * * * We see then of what vital consequence is the presence of oxygen in the atmosphere. Without it fires and lights will not burn, *our food will not digest*, and the blood remains unpurified, as is shown by the pale faces and purple lips of people living in close, warm rooms."—Tyndall.

And when, from incipient and insidiously advancing disease the lungs can no longer supply this element, in needed quantity, we must be ingenious enough to supply it through other avenues. The skin will, to some extent, breathe for us ; hence the phenomenal success of *oxygen baths* in certain conditions. (See the report of Dr. Valenzuela, in *Brit. Med. Journal*.)

The alimentary tract itself can be utilized. Water charged with oxygen furnishes a most promising source from which to secure the needed supply. It should be made as common as vichy or apollinaris.

The methods for securing better oxidization of food elements in the system are therefore numerous.

While increased respiratory activity and capacity are not always attainable in these cases, there must be a constant effort in this direction. Hence, let these patients seek the seashore (if it agree with them), or the mountains, or the wild plains of the West ; or let them go to sea, live out of doors, or change climates, until a favorable one is secured.

Or let them consistently inhale artificially prepared oxygen, now readily obtainable; and in case of jaded stomachs, let the proper aliment be introduced *per rectum*, and followed by enemata of *pure or diluted oxygen.* This is by no means difficult, and it is rationally and scientifically far in advance of the absurd carbonic acid and sulphur-hydrogen vagary which had such a senseless boom last season.

(See the reports of Dr. J. H. Kellogg in the *Therapeutic Gazette* for Sept. 15, 1887; and the suggestions of Dr. H. S. Humphrey in the *Medical Age*, April 15, 1888.)

In the light of modern science, nothing promises so much for the future treatment of phthisis as the practical carrying out of this suggested conjunction, viz., the systematic use of sarco-peptones as the ideal nutriment, *per os* when it is feasible, and *per rectum* when it must be so, conjoined with the equally *systematic introduction of an increased supply of free and active oxygen.*

The three vital and, it seems to me, all-important points at present virtually ignored are these:

1. The selection for the victims of wasting diseases of a dietary which does not lack any of the essential elements of nutrition, which can be used indefinitely and by any admissable method of introduction, and which has been, in a majority of cases, partially pre-digested.

2. The practical recognition and regulation of the *necessary relation between the food ingested and the oxygen inspired*, theoretically insisted upon by all physio-chemists and physiologists, without exception.

3. To exhibit both or either of these principles through the natural and usual avenues when they can be thus thoroughly utilized and assimilated, but to resort without hesitation to other feasible avenues when the respiratory function is, from any cause, seriously interfered with or impaired.

And if the medical profession, as a whole, will give to these admitted but unheeded physiological postulates a modicum of the study and interest now expended on bacillus staining and microscopic minutiæ, the death rate from phthisis and other wasting diseases will be lowered during the coming decade, even more than has thus far been accomplished by the over-done (because not thoroughly done?) cod-liver-oil-and-hypophosphites practice; more than can be done with these agents, used in the ordinary way, even though Churchill's ghost should return to organize a hypophosphite "trust," and all the cod in Norway should freely contribute their hypertrophied livers to supply the unctuous nauseant.

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ARTICLE V.

PLACENTA PRÆVIA, WITH MARGINAL IMPLANTATION OF THE CORD.

By M. A. VEEDER, Lyons, New York.

It is always well to know what nature can do under circumstances such as the following. The patient, forty-four years of age, had been the mother of two children, with normal labors. Throughout this confinement she had experienced unusual sensations, and about four weeks previous to delivery she felt pains that were so severe that she imagined that labor had begun. They were soon quieted by anodynes and rest, but recurred at intervals, becoming persistent only about two weeks after the expected date of confinement, at which time, also, dilatation of the os first became manifest. At this stage only one finger could be inserted, and the limited portions of membranes covering the head that could be touched felt entirely normal, giving no indication of the real state of affairs. Within an hour after an examination giving this result, there was an entire change in the condition of affairs. The pains suddenly became intensely sharp, and different, the patient said, from any that she had ever experienced. Immediately there was considerable hæmorrhage, and the os was found to be widely dilated. Instead of the head, which had been felt so plainly before, a spongy mass of tissue—readily recognizable as the placenta—was present. It had been attached in such a way as to retard dilatation of the os, and when suddenly torn loose had been dragged downward so as to form a thick mass in front of the advancing head. The bleeding evidently came from the site of attachment of the placenta, and not from the placenta itself. As clots formed in the uterine vessels the hæmorrhage decreased gradually. During a pain a rent was made without difficulty through the entire mass of placenta and membranes which was obstructing the advance of the head, whereupon the waters gushed forth freely. The patient at once said that the pains were now natural, and that she knew that she would get along rapidly as she always had. But on rupture of the membranes a new complication had been discovered. The cord was prolapsed and pulseless. It was stretched tightly across in front of the advancing head, forming a very decided obstruction. During the interval between the pains it became possible, however, to carry it upward beyond the head. Labor at once became rapid, hæmorrhage ceased, and the child was born in about an hour and a half from the time of the rupture of the membranes. When the after-birth appeared the mystery was solved. The placenta had been attached in an irregular manner over almost the entire inner surface of the womb, including its neck. Some portions were half an inch or more in thickness, whilst others were of membranous character, containing large blood vessels only. Above the internal os the placenta remained adherent until the child was born. Below this point it had been stripped off at the time when the hæmorrhage began. The reason of the pulseless condition of the cord also became apparent. Its point of attachment was below the internal os, so that when this portion of the placenta was loosened, the very point of origin of the cord was dragged downward in front of the child's head, and was less than half an inch distant from the margin of the rent which was made through the placenta and membranes. As matters were, if the insertion of the cord had been upon the upper segment of the placenta, which remained adherent, the child might have been born alive. In this case the method of procedure adopted would have contributed materially toward saving the child, and probably would have done far better service than turning. As the case was managed the danger to the mother from hæmorrhage was not great—the clots in the uterine vessels from which the placenta had been detached causing the bleeding to decrease rapidly, and the pressure from the advancing head stopping it entirely.

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SELECTIONS.

WHEN AND HOW TO USE MYDRIATICS IN THE EYE.* By Edward Jackson, A.M., M.D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic.

Nowhere in the medical application of drugs is clear and definite knowledge more important than in the use of mydriatics in the eye, and in very few directions has so much clear and definite knowledge been accumulated.

Besides their therapeutic applications to this organ, mydriatics are even more frequently used for diagnostic purposes. Before making such use of a mydriatic, one should always consider the possible presence of *contra-indications.* In an eye apparently normal the most important of these is an incipient or latent glaucoma. Glaucoma is an affection always tending toward functional destruction of the eye, only to be finally checked in the great majority of cases by severe operative procedure, and often uncontrollable even by the most radical measures. To hasten or bring about an acute manifestation of such a disease in an eye hitherto apparently free from it, must always be to the surgeon an occasion of deep annoyance and regret. And well-attested cases show that each mydriatic, with the possible exception of cocaine, is liable to produce such acute manifestations in the course of this disease. To use a mydriatic in an eye suffering from an acute outbreak of primary glaucoma, as, I regret to say, I have known to be done, is to be guilty of practice comparable to the feeding of a typhoid fever patient on violent purgatives, or practicing free venesections on one in collapse. I will not here rehearse the symptoms of glaucoma; but remember that it is a disease of middle and advanced life, that it often presents a pericorneal zone of hyperæmia, and may otherwise closely simulate some of the conditions in which mydriatics are most strongly indicated.

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* Read before the Medical Society of the State of Pennsylvania, at Bedford Springs, June 30, 1887.

A second contra-indication to its use is the interference with vision which a mydriatic occasions. The importance of this is to be weighed with the circumstances of each individual case, and such a mydriatic should be chosen, and it should be so applied that the inconvenience may be reduced to a minimum. But it is always to be remembered that when a patient comes to a physician, he has generally made up his mind that his trouble is serious enough to warrant some expenditure of time and money to get relief, and that to get the clearest possible conception of his case is the first duty the physician owes his patient.

Of contra-indications in eyes manifestly diseased may be mentioned, besides glaucoma, ulcers perforating the cornea at or near its periphery, where myotics will often be more useful.

Diagnostically, mydriatics are used to dilate the pupil, to determine the condition of the iris or the structures back of it, or to paralyze the accommodation. In normal eyes, to fully dilate the pupil requires very much less of the drug than to paralyze the accommodation. Simply *to dilate the normal pupil*, a single drop of either of the following solutions will suffice:

Cocaine hydrochlorate, gr. j, water, m. xxv, or about 1 to 25;
Homatropine hydrobromate, gr. j, water f. ℥ j, or about 1 to 500;
Atropine sulphate, gr. j, water, f. ℥ v, or about 1 to 2500;
Duboisine sulphate, gr. j, water f. ℥ x, or about 1 to 5000;

or daturine, hyoscyamine, or hyoscine salts used, of the same strength as duboisine.

Of the above the homatropine solution will render the pupil rather the most rigid, and its effects will pass off in from twenty to fifty hours. But *cocaine is the most generally valuable dilator of the pupil.* The dilatation it produces lasts but ten or twenty hours, is never so great in strong as in feeble light, so that there is less annoyance from exposure to the light; it produces proportionately the smallest impairment of accommodation, interfering least with near vision; and the dilatation it produces can be promptly overcome by the use of eserine, making it especially valuable after middle life, when there is a chance of the occurrence of glaucoma. And it is after middle life that a dilator of the pupil is most frequently needed; for as age advances, the pupil normally grows smaller, and, at the same time, there is an increasing liability to those degenerative changes in the posterio-media and coats of the eye that require a somewhat dilated pupil for their thorough study. But this drug has yet another advantage. In spite of the readiness with which it yields to myotics; in spite of its inability to entirely prevent the reaction to bright light, tested in a weak or moderate light, *cocaine produces a wider dilatation of the pupil than any other mydriatic.* And this superior power of cocaine is especially manifest in old people, whose pupils often do not dilate well under other mydriatics.

Paralysis of accommodation is produced, both as a diagnostic and as a therapeutic measure. It is not, as a rule, called for after fifty, although some cases do occur after that age in which such an action of a mydriatic is absolutely necessary. The difficulty of producing complete paralysis of accommodation does not greatly diminish with the approach of the age at which the power of accommodation is lost. The strength of solution required is not materially less at fory-five than at fifteen. And this is not surprising when we remember that accommodative power is lost primarily by increased resistance in the lens, rather than diminished power in the ciliary muscle Yet early childhood, probably because of interference with the absorption of the drug and extreme activity of excretion, presents special difficulty in securing complete abeyance of the function of the ciliary muscle.

To completely paralyze the accommodation usually requires from two to five instillations of a drop of either of the following solutions:

Homatropine hydrobromate, gr. x, water, f. ℥ j, or about 1 to 50;
Atropine sulphate, gr. iv, water, f. ℥ j, or about 1 to 120;
Duboisine sulphate, gr. ij, water, f. ℥ j, or about 1 to 240;

or daturine, hyoscyamine, or hyoscine in the same strength as duboisine.

Homatropine should be instilled at intervals of from five to fifteen minutes. With the other mydriatics, to avoid constitutional effects, the intervals must be much longer. Cocaine in any strength cannot, in most cases, completely control the accommodation.

Of the above, for diagnostic purposes, homatropine is greatly to be preferred. It reduces to a minimum the period of disability for eye work, recovery from it being nearly complete in from thirty-six to forty-eight hours against five or six days for atropine. Then, too, homatropine causes no noticeable and distressing symptoms, like the dryness of the throat, flushing of the surface, inco-ordination of motion, or even delirium, which are liable to follow the use of the other mydriatics. Although, as I have elsewhere pointed out (*Medical News*, July 24, 1886), this drug does usually to some extent influence the action of the heart.

When, as a therapeutic measure, the power of accommodation is paralyzed, such paralysis should always be made complete. Strain of accommodation occurs when the power of the ciliary muscle is insufficient for the performance required of it. In such a condition nothing could be more irrational than to lessen still further its power while still requiring it to do some work, as inevitably happens when an eye is placed partially under the influence of a mydriatic. When in doubt as to the propriety of a certain measure, it seems natural not to push it very vigorously. So physicians, uncertain as to whether or not a mydriatic should be used, say in a case of strain of the accomodation or in commencing convergent squint, are rather apt to use a weak solution of the drug, or make the application at long intervals; thinking, by such a tentative employment of the remedy, to discover if indeed it is likely to give relief. I have even seen in cases of headache belladonna given by the mouth (causing paresis of accommodation), with a vague notion that it was especially indicated by the eye symptoms. Now, as the mydriatic used in these ineffective ways can only weaken still further the already relatively weak ciliary muscle, the result must be still greater suffering on the part of the patient, and still greater confusion on the part of the doctor. If you use a mydriatic to relieve strain of accommodation, use it so that complete paralysis of accommodation will be secured as soon as possible for only then does acommodative effort cease. Homatropine is inferior to atropine or duboisine where the influence over the accommodation is to be long maintained; for after each instillation of the former, recovery of ciliary power will begin within two or three hours, and the instillations must be repeated at least that often, to prevent the alternation of periods of rest. With the other mydriatic solutions recommended for this purpose, at least eight to twelve hours elapse before there is any noticeable lessening of the influence of the drug, so that three instillations a day will be sufficient to uniformly sustain their action. Again, the period after the use of the drug is suspended, when the eye is but partially under its influence, is one of especial danger. Even with careful, intelligent patients, much of the benefit that would otherwise accrue from prolonged mydriasis is often lost at this time.

As a therapeutic measure, dilatation of the pupil is resorted to in cataract, mainly involving the centre of the lens; and in breaking up posterior, or central anterior, iritic adhesions. For the former purpose one of the weaker solutions of atropine, duboisine, etc., applied once every one, two, or three days, is sufficient; cocaine not being well suited to this purpose on account of the evanescence of its action, and its inability to maintain dilatation against a strong light.

To maintain dilatation of the pupil against a congested or inflamed iris, or to *break up iritic adhesions, use the strongest mydriatic solutions* that need ever be applied to the eye. For such purposes one may employ the following, or even stronger solutions:

Atropine sulphate - - gr. j, water f ℥ j, or 1 to 60;
Duboisine sulphate - - - gr. j, water f ℥ ij, or 1 to 120.

Here we wish to develop the maximum effect of the drug upon the iris, and the instillations should be repeated at short intervals, say every half-hour or hour, until the pupil becomes fully dilated, or the symptoms of mydriatic intoxication become so pronounced that the use of the drug can be pressed no further.

To get the maximum effect on the eye with the least absorption of the drug into the general system, as little of it as possible must be permitted to enter the tear passages, and find its way to the mucous surfaces of the nose and throat. To hinder such escape of the solution, the nasal extremities of the lids, including the canaliculi, may, as is often recommended, be firmly pressed against the nasal process of the superior maxilla. But I think it is much more effective to evert the lachrymal puncta, and keep in contact with the adjoining surface a bit of absorbent cotton. To aid in securing the same object, it is important to use a very strong solution of the drug, and place but a single small drop upon the cornea at once. I use a dropper with a small end, that will give less than a half-minim of water to the drop. When larger amounts of fluid are instilled, a greater proportion runs off with the tears. When both eyes are affected with iritis, it is sometimes wise to concentrate the mydriatic attack upon one of them one day, and upon the other the next, in order to get the full force of the drug in tearing loose adhesions. The power of atropine or duboisine in this direction may be somewhat supplemented by the simultaneous use of cocaine; though on account of its effect on the cornea I would not continue the applications of cocaine more than a few hours, nor repeat them before the second or third day.

All the mydriatics mentioned, except cocaine, seem to exert a direct influence over the nutritive processes of inflammation, which gives them great value in the treatment of many inflammatory affections of the eye. I will not now attempt to cover this field of their application, both because it is so extensive and because I do not feel that I can here speak so definitely. It may, however, be mentioned that, subject to the contra-indication of glaucoma, and aside from their influence on iritic adhesions, the most obvious indication for the use of a mydriatic in an inflammatory disease of the eye is the presence of a pericorneal zone of redness, either partial or complete. In proportion as the inflammation is plastic in character will be the benefit derived. And for its direct influence on the nutrition of the part, the largest amount of the mydriatic does not always give the best result.

It may seem that I have busied myself with the discussion of very small details; but ignorance of details nullifies the value of more pretentious knowledge, and nowhere more frequently than in the application of mydriatics to the eye.—215 *South 17th Street.*

NOTES ON THE OCCASIONAL RELATION OF ENDOMETRITIS GRAVIDORUM TO THE PERNICIOUS VOMITING OF PREGNANCY. By W. W. Jaggard, M. D., Professor of Obstretrics, Chicago Med. College, Obstetrician to Mercy Hospital.

[Following is a synopsis of a paper read in the section on Obstetrics at the Cincinnati meeting of the American Medical Association.]

The purpose of this note is to report a case of endometritis gravidorum which illustrates the highly probable causal nexus sometimes existing between this condition and the pernicious vomiting of pregnancy, and the occasional occurrence of indications for the induction of abortion.

Chronic decidual endometritis plays an important role in the modern pathology of pregnancy. J. Veit prefers with reason the term endometritis gravidorum to "endometritis decidualis" since the morbid state is referable to a condition in existence prior to pregnancy and persisting afterward.

Case—Mrs. D———, æt. 29 years, delivered November 1879 of an abortive ovum corresponding to the third month, following the miscarriage the patient complained of constant back-ache and leucorrhœa. During three successive pregnancies which resulted in the birth of living children, irregular uterine hæmorrhage continued during the first half of gestation.

In 1885 she was delivered of an abortive ovum corresponding in size and development to the third month, while the duration of amenorrhœa and presumably of pregnancy was seven months. The egg presented the familiar appearance of the flesh mole. This pregnancy was followed by one in which the child was carried to term, and this latter was followed by the one in which occurred the uncontrollable vomiting. When I first saw the patient as consultant, pregnancy was advanced to about the twentieth week. The slightest muscular exertion excited a paroxysm of vomiting and retching. Fœtal heart tones were normal, intermittent uterine contractions but painless in character. Placenta prævia was diagnosed, threatened abortion from rupture of the amnion was eliminated by the entire absence of expulsive uterine contractions and of the cervical changes. Artificial abortion was subsequently induced and the hstory of the case established the fact of an endometritis corporate of long standing, and active immediately before conception.

I was disposed to regard the vomiting as reflex and the inflammation of the endometrium as the exciting peripheral irritant, in the entire absence of any other plausible or adequate explanation. The anemia was neither so profound nor so acute as to constitute a sufficient cause, and vomiting ceased immediately upon the conclusion of gestation.

Gueniot persistently insists upon three elements in the diagnosis. These are: 1st. The diagnosis of pregnancy. 2d. The diagnosis of the determining or adjuvant cause of the vomiting. 3d. The differential diagnosis between the obstinate vomiting due to pregnancy, and obstinate vomiting from other cause.

It is well-known that German observers see very few fatal cases of the so-called uncontrollable vomiting of pregnancy, while American, English and French clinicians record numerous examples.

Treatment.—After free evacuation of the intestinal tract, absolute rest in bed in the horizontal position, isolation of the patient and freedom from all excitants were secured. Peptonized milk and dry champagne were rejected. Cocaine, morphia and atrophine hypodermically were without apparent effect.

Then absolute stomach rest was maintained, full doses of chloral and potassium bromide were given every eight hours per rectum. All the food and medicine exhibited per anum were retained. At the end of the first week my patient was much weaker, the hyperemesis and uterine discharge continued without intermission. I now regret that I did not make the application of the ten per centum solution of argentic nitrate to vaginal portion. The method has been generalized by Sims, Carl Braum, Welfoner, and others, and in my own hands has commonly yielded excellent results. Copeland's method of cervical dilatation was accidentally employed but without the slightest effect upon the vomiting.

I was very reluctant to interrupt the pregnancy but the critical state of the patient and the continuance of the uterine discharge did not seem to justify further expectancy, so I determined to induce abortion under the two-fold indication of the vomiting and endometritis. A sterilized flexible bougie was introduced, No. 17, French scale, between the chorion and the anterior uterine wall. The objection that dangerous hæmorrhage is apt to take place is shown by Ahlfeld to be true only when the placenta is implanted near the os internum. Schaunta, too, prevents the introduction of air by passing the bougie through a speculum partially filled with fluid.

The notion that endometritis gravidorum is an occasional cause of the pernicious vomitings is by no means new. Dance and Chomel have described certain morbid states of the placenta and the membranes which they regard as important etiological factors. Eberle has asserted the belief in their causal relation in the Obstetrical and Gynecological Society of Berlin. J. Veit has recently reported three cases in which a necessary relationship between the two conditions is apparent. The history of the first case disclosed uncontrollable vomiting and unbearable gastralgia in a former pregnancy, followed by spontaneous abortion. In the second case uncontrollable vomiting was accompanied by severe uterine hæmorrhage indicating the use of the tampon. Veit's argument is briefly: 1st. Changes in the decidua, there were no other apparent causes present. 2d. Vomiting ceased immediately upon the removal of the ovum and the elimination of the endometritis. 3d. It is a well-known fact that gastric disorders, reflex in origin are common symptoms of endometritis in non-pregnant women.

In this described case an important link in the chain of evidence is supplied. The vomiting was aggravated paripassu with the advance of the inflammation of the endometritis. The fact that vomiting did not occur in former pregnancies does not constitute a valid objection to the theory for obvious reasons. The case is of further interest on account of the late period of the appearance of the vomiting. It could plainly sustain no relation whatever to any form of flexion or displacement, appearing as late as the eighteenth week after the corpus uteri had passed up into the abdominal cavity.

Where the pernicious vomiting of pregnancy is symptomatic of endometritis, the induction of abortion would naturally be considered earlier and with greater favor than where the disorder is the result of other causes.

Schroeder has repeatedly emphasized the preventive treatment of threatened abortion where there is reason to believe the embryo is dead or that the ovum is hopelessly diseased, warning against the useless protraction of the state of pregnancy by rest in bed and opiates, though not indeed advising the active interruption of pregnancy. When the embryo is dead or the ovum hopelessly diseased, abortion is physiological.

Dr. Henry O. Marcy, of Boston, was interested in the subject of Dr. Jaggard's paper since it placed an old topic in a new light. Since familiar with the views of the late Dr. Escolon, he had carefully studied a number of cases, and he believes he has found in them the real explanation of the pathological conditions. Soon after impregnation the uterine glands become greatly hypertrophied and furnish a secretion of physiological necessity to the developing ovum. Normally, however, these undergo atrophy as the decidua serotina develops into the true placental structures, traces of these may be seen in the decidua vera even at delivery.

In the conditions described in the paper as endometritis hydrorrhœa this atrophy of the glands does not take place, but on the contrary hypertrophy ensues and secretion from these enlarged utricular glands follows, giving rise to the name hydrorrhœa with a proliferation of the connective tissue, stroma, etc. Often, paripassu, there fails to develop the maternal secretory villi either in a part or over the whole placental site; the fœtus either undergoes an imperfect development or perishes for lack of nutrition and if the case is an extreme one the condition known as "mole pregnancy" is produced. As the changes go on according to the varying states of placental development in the maternal glandular organ, the result becomes greatly varied both as to the uterus and contents as well as the dangers to the mother.

If this explanation be correct it greatly simplifies the problem of treatment, and if the diagnosis has been correctly made as just differentiated by Dr. Nelson, of Chicago, it shows the utter futility of cervical applications or dilatation.

The blighted ovum must be removed and the uterine mucosa regenerated. This is usually done better as a surgical rather than an obstetrical operation: Prompt recognitions of these conditions will save many lives and when it becomes accepted that the fœtus can hardly be carried to a self-sustaining individual life, the profession will no longer endanger the mother by waiting to extremes. In the case of the Catholic the clergy will not intervene under the teaching that the life to come, *i. e.*, the developing child, is of greater value than that which is, namely, the life of the mother.

Dr. Marcy closed by saying that he was still a student of these interesting changes and would consider it a personal favor to receive specimens from any of the members for careful examination.

A Note on Methylene and other Anæsthetics.—By Sir Spencer Wells, Bart., F.R.C.S., Surgeon to the Queen's Household.

Early in May I received from Berlin a sample of "methylen-chloride," manufactured by Riedel, of that city, with a paper on some of the different specimens of that anæsthetic by five other chemists, from a recent number of the *Pharmaceutische Zeitung.* I was informed that Dr. Bardeleben had tried, and had been quite satisfied with, Riedel's methylene. Inhaling a little myself, it appeared to me very much like the methylene most used here, but rather stronger; so I asked Dr. Day to make some comparisons of it with that to which we have been accustomed for many years past. And having to operate at Manchester on May 13th, and at Liverpool on the 14th, I took some with me. At Manchester I had to do splenectomy; and Dr. Scott, who had administered ether in Edinburgh for Dr. Keith for two years, preferred ether to anything he had not used before. So he gave ether, with most satisfactory result. I never saw more quiet or complete anæsthesia, and I am glad to say that the patient has done well; but for two or three hours after the operation she had a flushed face, hot forehead, and excessively rapid pulse. I could scarcely count it, but it was certainly over 150. I supposed that this might be due to the altered circulation following removal of the large spleen; but Dr. Scott said that Dr. Keith had remarked to him upon the occasional occurrence of very rapid pulse after his operations. As I could not remember such rapidity after methylene, I was somewhat confirmed in my dislike to ether. I have seen it used alone, or after nitrous oxide, and I have never been quite pleased with the effects. Once Dr. Matthews Duncan and I simply examined a lady after the use of gas and ether, and for twenty-four hours afterwards she was in a state of hysterical, almost maniacal, excitement, which would have been alarming after any severe surgical operation; and more than once I have had to deal with troublesome bronchial irritation after the use of ether. At Liverpool, on May 14th, I performed ovariotomy assisted by Dr. Grimsdale and his son, and Dr. Rawdon (who had been accustomed to the use of methylene) used the sample of Riedel's preparation which I had with me. At first the action seemed rather quicker than usual, but towards the end of the operation, although it was unusually short, it was difficult to send the vapor through the tube of Junker's apparatus, and Dr. Rawdon noticed that the rapid evaporation had led to the partial closing of the tube by a sort of snow, or frozen vapor. This I had never noticed with the London methylene. The patient went on remarkably well after the operation, so on May 16th Dr. Day used the new methylene for a lady in London for whom I performed ovariotomy. This was also a very short operation, but the patient's face was flushed and her head hot for several hours afterwards, though neither pulse nor temperature was much raised. On the 22nd I did a laparotomy at Gloucester with Mr. Edis, and Mr. Cuthbert preferred to administer chloroform, as being more accustomed to it. It answered admirably, and the patient, like the others, went on quite well. This I have often observed when chloroform has been given for me. The reasons I gave up the use of chloroform as a rule were not only the reports of the deaths to which it had led, but my own observation. I have only once seen a death from chloroform; that was in Paris, when Dr. Waters, of Chester, and I stood beside Malgaigne while he amputated at the shoulder-joint. But I nearly lost a patient in the Samaritan Hospital while I was removing a breast, Dr. Snow Beck giving chloroform; and twice in private practice, while Mr. Clover was giving chloroform vapor from his bag, I have had to suspend the operation for a time, and resort to artificial respiration during ovariotomy.

It was these cases which led me, at first with the help of Dr. Richardson, and afterwards of Dr. Junker (who devised the admirably simple inhaler which is called after him) to use methylene as a rule, and other anæsthetics only exceptionally. Once in Pomerania, when about to remove an enormous ovarian tumor, none of my German colleagues would give anything but chloroform, to which they were accustomed. The patient was very weak, and I very much preferred methylene; so I showed an intelligent nurse how to administer it, and she did it quite effectually and safely. I mention this to show that any supposed difficulty in the administration of methylene by Junker's apparatus is a mistake. Since 1872 I have preferred methylene to any other anæsthetic.

In the address on Surgery at Manchester in 1877, I said: "Given properly diluted with air, the vapor of chloromethyl has, in my experience of more than ten years with more than 1,000 operations of a nature unusually severe as tests of an anæsthetic, proved without a single exception applicable to every patient, perfectly certain to produce complete anæsthesia, relieving the surgeon from all alarm or even anxiety; and its use has never been followed by any dangerous symptom which could be fairly attributed to it." And I went on to say: "I wish I could speak as confidently of the chemical composition of the fluid sold as bichloride of methylene as I can of its anæsthetic properties; but whatever may be its chemical composition, whether it is or is not chloroform mixed with some spirit or ether, or whether it really is bichloride of methylene, I am still content with the effects of the liquid sold under that name, when properly administered." And more than ten years' additional experience has confirmed me in the opinions so expressed. Dr. Tyndall told me that no chemist could make pure bichloride of methylene under ten shillings an ounce, and that when made it would not keep a week. Others said a mixture of chloroform and methylic alcohol would act as well, but on trial it did not; neither did the A.C.E. mixture of the Committee of the Royal Medical and Chirurgical Society; neither does this new preparation of Riedel's. Last week Dr. Day gave it for me in a case of amputation of a breast. The tube became so choked with snow before I began the operation that the patient could not be made unconscious, and we had to give chloroform, neither of us very willingly, as we had just heard of a patient having become so near death under chloroform that the surgeon had to do tracheotomy with a pocket-knife before animation could be restored.

Surprised at the obstruction of the tube by the new preparation, I wrote to Dr. Bardeleben, and he replied on May 29th as follows: "We have made the same observation on artificial snow, and the obstruction of the tubes in using Riedel's methylene chloride, with Junker's apparatus. No doubt it is dependent on the cold produced by the rapid evaporation. We have another objection to make to this new anæsthetic substance. The anæsthesia is effected very slowly, and is not of long duration; and the nausea and vomiting begin often before complete anæsthesia has been attained."

Accordingly, until some better anæsthetic is brought forward, I shall remain content with the bichloride of methylene, made as first proposed by Dr. Richardson. I have never known it to fail, and I have never once been alarmed, or even made uneasy, by its effects in any one of more than 2,000 operations, many of them of unusual severity or duration.

CLINICAL RECORDS.

FROM CLINICAL SOCIETY OF LONDON.

Suture of Ruptured Urinary Bladder.—Tonsillitis Treated by Cocaine.—Bilateral Laryngeal Palsy from Acute Laryngitis.—Necrosis of Hyoid Bone.

An ordinary meeting of this Society was held on the 11th inst., Dr. W. H. Broadbent, F.R.C.P., President in the chair.

Mr. Symonds read a case of Rupture of the Urinary Blatter, in which the rent was sutured. The patient, a child æt. 7 years, was thrown from Blackfriars-bridge, falling into a passing barge on to her abdomen. She was admitted into hospital in a state of extreme collapse, and for some time it was feared she would die. The abdomen was full and tender, chiefly over the hypogastric region, where was a prominence exactly resembling a moderately distended bladder. No urine having been passed, after about six hours a No. 1 catheter was inserted. At first a few drops of clear urine were withdrawn, and then a drain of dark blood. Under chloroform a catheter was again introduced and a small quantity of dark fluid removed. An attempt was made to pass the catheter through a possible rent in the viscus without success. The abdomen was at once opened, for though the catheter passed easily into the bladder, no reduction was affected in the dull prominence of the hypogastric region. A large quantity of dark fluid having a faint urinous odor, immediately escaped. The rent was not at once found, but on passing a steel sound into the bladder it protruded just below the apex. There an irregular rent an inch and a quarter long was found, involving partly the peritoneal, but chiefly the extra-peritoneal, surface. It was Y-shaped. The fold of peritoneum passing from the bladder to the abdominal wall was much lacerated, and the edges of the bladder were much torn. About twenty Lembert's sutures were inserted, the peritoneum washed out with weak carbolic acid and perchloride of mercury, and the abdominal wound closed. A catheter was tied into the bladder. For a time the child did well. Then the catheter irritated her, and was removed. She never recovered from her collapse fully, passing from it into a restless, non-feverish condition. Fearing an accumulation of urine and inflammatory products, the abdomen was reopened on the sixth day, but nothing was found. Next day urine escaped through the wound, and the child died on the eighth day. At the inspection a collection of pus was found on the left side of the bladder, extending into the left ilio-lumbar region. The peritoneal part of the wound was soundly healed, but the non-peritoneal part was gaping widely, the sutures having torn through. The urine had escaped, and had set up the suppuration. There was no general peritonitis. There was separation of the right sacro-iliac synchondrosis. In reviewing the case, Mr. Symonds said that he considered the best plan would have been to have closed the peritoneal part of the rupture and the rent in the anterior false ligament, and to have left the rest of the wound open, with a drainage tube in the bladder. The edges of the rent were ragged and bruised, and, though turned in, the muscle did not unite, nor could it be expected to do so. The case, he pointed out, was a good illustration of the necessity of leaving the extra-peritoneal portion of the rent open. One point in the diagnosis was important: the prominence representing the bladder was due to the urine, the fluid not having passed upwards to any extent. Above it the small intestine, formed a boundary, the pelvic cavity being quite empty of bowel.

Sir Wm. Mac Cormac thought it best to close both the intra-peritoneal and the extra-peritoneal rupture. Certainly a drainage tube should be used.

Mr. Bennett said that a drainage tube had better be used in order to drain off inflammatory exudation and to protect the parts, supposing the extra-peritoneal wound gave way.

Mr. Symonds agreed that, as a rule, drainage should be resorted to.

Dr. de Havilland Hall read notes of three cases of Acute Parenchymatous Tonsillitis or Quinsy treated by Cocaine. Case 1: A laborer, æt. 28 years, was admitted into the Westminster Hospital on September 28th, 1887, suffering from quinsy. He had had two similar attacks in the last five years. On admission he had been ill four days. The right tonsil and adjacent soft parts were enormously swollen, and he was unable to swallow without the greatest difficulty and pain. On the 30th there was complete inability to swallow, but after painting a 20 per cent. solution of cocaine freely over the whole of the fauces the patient was able to swallow some bread and milk. The same night the left tonsil became affected, and the cocaine solution was applied again next day with an equally good effect, and the day following he was able to swallow bread and butter. No suppuration occurred. The patient left the hospital quite well, after having been in one week, instead of four and three weeks respectively, as on the two former occasions. Case 2: A publican, æt. 25 years, seen in consultation with Mr. Wright, at Kennington on October 26, 1887. When seen the patient's complexion was dusky; he was suffering from some dyspnœa and great dysphagia. Both tonsils and the soft palate were greatly swollen, and were covered with a viscid secretion, but there was no false membrane. Pulse 120, feeble. Urine: sp. gr. 1030; loaded with albumen. The patient's condition was a most anxious one. The throat was swabbed out with a 20 per cent. solution of cocaine, and the application was repeated in ten minutes. Five minutes later the patient was breathing easier, and was able to swallow half a pint of a mixture of egg, milk and brandy. During the next two days applications of cocaine were made night and morning, and one on the third day. The patient gradually improved, no suppuration occurred, and a week later the urine was free from albumen and he was well. Case 3: A porter, æt. 39 years, attended at the Throat Department of the Westminster Hospital on November 16, 1887, complaining of sore throat and inability to swallow for thirty-six hours. He was previously quite well. The left tonsil and adjacent parts were swollen, and there was a yellow patch on the tonsil. Pulse 88, fair volume. Temperature 101.2°. Urine contained a trace of albumen. A 20 per cent. solution of cocaine was applied, and the patient was soon able to swallow half a pint of bread and milk. Four days later the patient had no difficulty in swallowing, and was practically well. In all three cases, as soon as the patient could swallow easily, tincture of the perchloride of iron, with or without quinine, was ordered. Dr. de Havilland Hall pointed out that cocaine has a twofold action in these cases: it diminishes the sensibility of the parts to which it is applied, and at the same time lessens the blood supply; hence deglutition is much facilitated. He also thought that it checked suppuration. He advises the throat to be sprayed out with a solution of bicarbonate of sodium, ten grains to the ounce, before the cocaine is applied. By this means less cocaine is needed, and it appears that cocaine acts more efficaciously in the presence of an alkali.

Mr. Stoker said he rose to emphasize Dr. Hall's remarks. He suggested, however, that a good way to prevent recurrence of the inflammation would be to remove the tonsils. While cocaine certainly merited all the praise bestowed upon it in these cases, he mentioned that some care was necessary, as he had seen patients almost expiring from the effects of cocaine used for this purpose.

Dr. Alex. Morison suggested that the syncopal attacks to which allusion had been made might in some cases be due to mere manipulation of the inflamed tonsils. He quoted a case in which merely touching the inflamed tonsils had brought on an attack of syncope, which narrowly escaped proving fatal.

Dr. Semon quoted several cases to show that cocaine was not a drug to be used indiscriminately.

Dr. Hall, in reply, mentioned that last week he had used a 20 per cent. solution of cocaine on a young and strong man, who was very strongly affected by it, and had to lie down for nearly an hour before the effects passed off. He always applied the solution now with a brush, all the cases in which untoward symptoms had showed themselves having occurred when he used the spray. He observed that peri-tonsillar inflammation seemed to take place in some cases when practically no tonsillar tissue was left. His remarks only applied to parenchymatous tonsillitis, and the same good results had not followed the use of cocaine in the follicular form.

Dr. Percy Kidd read a case of Complete Bilateral Paralysis of the Vocal Cords from Acute Laryngitis, with recovery. The patient, a pale thin woman, aged thirty-seven, the subject of chronic bronchitis, complained of shortness of breath and loss of voice, which had developed a few days previously. On examination, there was respiratory dyspnœa, with complete aphonia, and harsh laryngeal breathing was audible over the upper part of both lungs. The mucous membrane of the larynx was deeply congested, and there was much swelling of the aryepiglottic folds, ventricular band, and to a less extent of the inter-arytenoid fold. In the last situation there was a small yellowish mass, which could not be detached by coughing. The vocal cords occupied the cadaveric position, and remained motionless during inspiration and phonation. The patient was ordered cold applications to the throat, ice to suck, and complete rest. Four days later she was much better, the dyspnœa had diminished, there was less laryngeal swelling, and the inter-arytenoid fold presented a normal appearance. There was no trace of the small yellow mass—probably a piece of inspissated mucus. The vocal cords had to a great extent recovered their power. On phonation the normal closure of the glottis occurred, but abduction was still very deficient, though not absolutely lost. From that time she rapidly recovered, and in three weeks the larynx was perfectly healthy, and the vocal cords had recovered their functions. The want of mobility of the cords was attributed to paralysis of their muscles from inflammatory infiltration of the intra-muscular nerve filament and muscular fibres. Reasons were given for the belief that mechanical fixation from abscess, perichondritis, swelling of the inter-arytenoid fold, &c., is inadequate to explain the succession of events.

Dr. Semon said he had come to the meeting feeling somewhat sceptical as to the possibility of the existence of a bilateral rheumatic paralysis of the vocal cords. He agreed that there was no *à priori* reasons why cold should not affect the recurrent laryngeal nerve as it did the facial; though being better protected, the former was less liable to such influence. He said that the order of retrogression certainly supported the diagnosis of rheumatic paralysis, but it was the first case on record of bilateral paralysis from this cause.

Mr. Nunn read a paper on a case of Necrosis of the Greater Cornu of the Hyoid Bone, and of Ossified Portions of the Thyroid Cartilage, with Extrusion of the Sequestra from an Abscess in the Anterior Triangle of the Neck, following Gummatous Ulceration of the Tongue and Perichondritis of the Thyroid and Cricoid Cartilages, followed by profuse Hæmorrhages, Pneumonia, and Phthisis. The patient, æt. 33 years, was a gentleman who had served with the army in India for a short period. About three years before coming under Mr. Nunn's notice, he had suffered from syphilis followed by constitutional symptoms. Tertiary ulceration of the tongue was the chief trouble. The irregular habits of the patient prevented the steady carrying out of any treatment. At the end of fourteen months, swelling with tenderness appeared on the right side of the larynx, and a couple of weeks later, profuse hæmorrhages, three in number, occurred; ultimately the sequestra above named were discharged from an abscess which formed in the anterior triangle of the neck near the sternum. The abscess ultimately became a pharyngeal fistula, liquid food escaping during the act of deglutition. Pneumonia set in immediately after the hæmorrhages, and finally the patient died from phthisis. After the first hæmorrhage, Sir James Paget was consulted in respect of ligaturing the carotid artery, but the operation was decided against.

Dr. Percy Kidd was not sure of the source of hæmorrhage; the lungs might explain it.

Dr. Broadbent suggested that the phthisis might have been "ab hæmoptoë."

Mr. Nunn in reply agreed with this suggestion, and believed the blood came from the lingual or some artery near it.

Dr. Urban Pritchard showed a living case of Cephal-hydrocele.

ABORTION IN DOUBLE UTERUS.—Cases of double uterus are comparatively rare, but it is very probable that many of them are overlooked. The following is a brief record of a case which came under my observation lately, and which presents several points of interest.

Mrs. E., æt. 28, consulted me on February 27th last, on account of severe metrorrhagia and pain in the lower part of the abdomen. Menstruation, which commenced at fourteen, was regular and painless until Christmas, 1887. At that time she had been married for four months, and, although there had been no cessation of menstruation, she fancied, from a feeling of weight in the pelvis and a slight increase in size, that she was pregnant. On December 26th, she was atttacked with severe pelvic pain and flooding. She states that amongst the clots expelled there was a large firmer body, and that soon after this came away, the flooding ceased. Six weeks later, menorrhagia and pain returned, and continued until the day before I saw her.

Dr. Cullingworth very kindly examined the patient with me, and together we made out the following points: Ostium vaginæ wide, admitting two fingers. Vagina normal in lower part; at upper third a loose fleshy septum was found, dividing the upper part of the vagina into two equal lateral portions. Each compartment contained a cervix, resembling the normal nulliparous cervix, each os externum being closed. The bimanual examination was unsatisfactory on account of the tension of the abdominal muscles. Two uterine sounds were introduced, one into each cervix. In the first part of their course they ran parallel, but were separated by a septum; higher up they diverged, each tip running outwards from the middle line. No enlargement of either uterine cavity was made out. With the sounds still in position, the abdomen was now examined, and two distinct uterine fundi were felt, separated by an interval of about two inches, the tip of each sound being plainly felt through the abdominal wall. *Per rectum*, the lower part of the uterus could be felt, but the point of divergence could not be made out.

It was thought advisable, before proceeding to more active treatment, to try the effect of rest for a few days, and accordingly the patient was ordered to remain in bed, and the pain was relieved by opiates. On March 2d the hæmorrhage returned, and she expelled a solid substance about two inches long and one inch broad, which on examination proved to be a piece of placenta. After this her recovery was rapid; the discharge ceased, all pain disappeared, and a fortnight later she was going about as usual.

Remarks.—The malformation in this case was that known as uterus duplex bicornis. An important point is the fact that the vagina was double at its upper part but single below. In the majority of cases of uterus duplex bicornis, the septum extends the whole length of the vagina, so that there are two external orifices.* It is not difficult to understand how the abnormality should have been unsuspected both by the patient and by her husband; even on vaginal examination the case was one which might have passed as normal, for the septum was so lax that it was easily flattened against either side of the vagina, and in this way one cervix was covered up and concealed. A very similar case is described by Lumpe,* who believed that the lower part of the septum had been detached by coitus. The cause of the hæmorrhage was not quite clear at first; but, from the history, it seemed probable that it was due to some retained products of conception, and this view was confirmed later, when the portion of placenta came away. At the time of examination, however, there was no hæmorrhage, both uterine orifices were closed, and there was no appreciable difference in the size of the two uterine cavities. The continuance of menstruation during pregnancy in a double or partially double uterus is uncommon; it is noted only in two out of seventy cases collected by Kussmaul. From the patient's description of the expelled ovum, I believe the abortion occurred at the third month. Statistics tend to show that abortion is not more likely to occur in a double uterus than in a normal one, but I am inclined to think that the abnormality in this case was alone the cause of the abortion, as I was unable to assign any other reason why it should have occurred. Possibly the continuance of menstruation may have had something to do with it.

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* *Von dem Mangel, der Verkümmerung und Verdoppelung der Gebärmutter.* A. Kussmaul. Würzburg. 1859.

* *Wiener Wochenbl.* 1856. No. 33.

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ABSTRACTS.

Surgical Treatment of Brain Diseases (E. von Bergmann).—The author, in an article on this subject, draws the lines within which, according to present experiences, surgical intervention is of necessity.

I. *Deep cerebral abscess.* The necessity of removing a purulent effusion in the brain by means of surgical therapeutics is not controverted in principle. For every cerebral abscess, abandoned to itself, causes irremediably the death of the person affected by it, either through irruption into the ventricula or through meningitis. There is only the difficulty of diagnosis to oppose trepanning for the evacuation of pus from the cranial cavity. In the first place, etiology is to be searched for this purpose. Besides metastatic and tuberculous abscesses of the brain, traumatic abscesses (open wounds of the hard or of the soft cranial walls), and abscesses propagated from other purulent affections in the skull, especially suppuration in the ears, are to be taken into account. The latter two kinds only offer a prospect of successful surgical treatment.

Concerning diagnosis of traumatic cerebral abscesses, von Bergmann distinguishes between cortical abscesses located immediately beneath the point of fracture, where the contusion of the brain exists, and the deeper abscesses located beneath the cortical part. Cortical abscesses make their appearance in acute shape, and from the appearance of the wound (peculiarity of granulation, oozing of pus), the danger is often easily discovered. But in case the retention of pus succeeds underneath the cicatrized epidermic wounds, these abscesses are a delusive imitation of traumatic, purulent, convex meningitis, with its irritative and paralytic symptoms. As a differential diagnostic, von Bergmann sets forth that the surface abscess, in contra-distinction to the impetuously appearing leptomeningitis, requires time (eight to fourteen days) for its development, provokes symptoms of extension in a surprisingly slow manner, and shows in its initial and paralytic phenomena a certain selection with regard to its seat. Deep abscesses, on the contrary, originate weeks, months and even years after the trauma. Between the abscess and the osseous structure there is sound tissue. Concerning the mode of vulneration preceding the traumatic cerebral abscess, one fact is certain: Each traumatic cerebral abscess has been preceded by a wound communicating somehow with the exterior world. Osseous splinters and foreign bodies which have remained in the wound are elements disposing to cerebral abscess, which is the reason of the high importance of trepanning as a prophylactic method. For abscesses originating with auricular affections, von Bergmann establishes certain positive diagnostic signs. Chronic suppurations only, meaning suppurations of the middle auditory conduit, induce cerebral suppuration. The location of these abscesses is typical, either in the temporal lobe or in one of the hemispheres of the cerebellum. And finally, brain abscesses after otalgy are characterized by their imperceptible beginning.

The symptomatology of every cerebral abscess, whatsoever may be its origin, is divided by von Bergmann in three groups:

1. Symptoms depending on suppuration itself.
2. Symptoms indicating an increased intercranial pressure; and finally,
3. Symptoms corresponding with the seat of the abscess.

With regard to the symptoms of the first group, the febrile actions are very characteristic. The fever appears by fits, and then disappears for weeks and even months. The febrile action appears with more intensity at each return. As a significant circumstance, headache is to be mentioned, which during the febrile action presents a state of exacerbation. In many cases cranial percussion offers useful indications for localization. As a valuable diagnostic symptom may be mentioned the circumstance that during the fever the frequency of pulse diminishes and the somnolence of the patient becomes notable. On the other hand, the appearance of an obstructive papilla in cerebral abscesses is very little constant. Focal symptoms are furnished by the abscess in such cases only when it exists in the regions of motorial action; they are wanting when it has its seat in the frontal, occipital or temporal lobe. Nevertheless, after careful observation some have succeeded already several times, even without existence of focal symptoms, in operating with good result; the author, among others, reports a case where the abscess was located in the left frontal lobe. For diagnosis of localization in the several lobes we refer to the original article. In typical cases only, von Bergmann is disposed to perform operation, and especially then only when the above mentioned etiological conditions are present. But in such cases, according to the author, it is not, as formerly, the exploring needle, but the knife, which assumes its right.

II. *Cerebral tumors.* In the first place, the author remarks that surgical treatment of cerebral tumors presents less prospect of success than the treatment of endocranial suppurations. If the seat of the tumor, in consequence of the lack of local symptoms, can not be determined, not even an explorative trepanning ought to be attempted. It is self-evident that the kind of tumor is of great importance. Gummata and tuberculous conglomerations ought not to be touched. It is true that Horsley, who in all questions of cerebral surgery has been a kind of a path-finder, has in one case removed a caseous tubercular nodosity from the surface of the cerebrum (death 19 hours after operation, dissection showing general tuberculosis), and in another case tubercular conglomerates of the cerebellum, this time with successful result. Yet, pathologic anatomy teaches us that a tuberculous nodosity, sharp edged and isolated, is one of the rarest occurrences.

With regard to operating for carcinomata, gliomata, sarcomata and gliosarcomata, cysts and myscomata of the brain, if it is to be practicable at all, it is necessary, first that these tumors should not be too large and too extended, second that they should not be diffused in a zone of red and red-yellowish softening, and finally, as already stated, that, by their location, they should constitute symptoms admitting of exact localization. Starting from these conditions, the author investigated 100 cerebral tumors, as described by Hal White from his autopsical researches, and he demonstrates that out of these 100 cases nine could have been operated upón, but that out of these nine only one was diagnosticable. But very great is the danger of every cerebral tumor operation, on the one hand on account of consequential bleeding, and then on account of consecutive cerebral œdema. In this particular, surgical *technique* is capable of considerable improvement. Against the danger of excessive bleeding, von Bergmann recommends to take hold of each larger vessel, and to tie it, and then to apply compression and derivation through iodoform gauze with secondary suture. (Cf. Bramann, Arch. f. Rlin. Chirwegie, vol. 36, p. 72.)

At the end of this chapter, the author resumes the operations in this field of cerebral surgery, as practiced until now the total number of cases is eleven, among them three " not sufficiently authenticated," and which therefore should be omitted. Permanent recovery has been attained in one case only, four months after operation. In another case, epileptic convulsions appeared three months after operation, possibly attributable to cicatrization. All the remaining cases show unfavorable results. In one case, there was relapse during the very vulnerary treatment; five cases perished in consequence of the operation, and in one case the tumor was not found by the operation.

III. *Epilepsy*. The author recalls Maclaren's observations, in which epileptics were subjected to greater operations, not on account of their epilepsy, but on account of other affections, as, for instance, cancer. It so happened that they also remained exempt from their attacks for a considerable time. Keeping this fact in view, and considering with keen eye the therapeutic successes of trepanning in epileptics, it is to be seen how much in statistics truth has been affected.

To elucidate the effective surgical results, it is advisable, with the neuro-pathologic school, to maintain the distinction between genuine and reflex epilepsy. From the latter category, the author has been in a position, once to observe an unquestionable recovery, another case is problematic, in three of his other cases cicatrical excision has decidedly failed to effect a cure.

The astonishing fact that reflex epilepsy so seldom occurs after lesions in neck, trunk and extremities, and so often after lesions of the cranial roof, is explained by the author in the following way: that we have to attribute these to the concurrent lesion of the cerebral cortex, and for this reason he considers traumatic epilepsy in cephalic lesions as part of cortical epilepsy. This cortical epilepsy, first described by Jackson and called by his name: " Jackson's cortical epilepsy," takes the same typical course in man as in animal whose motorial cerebral region has been electrically excited. The irritation begins with the muscular group, corresponding with the cortical centre, electrically excited in the cortical layer. The convulsion may remain isolated (monospasm), or may attack the whole half of the body, and even the whole body (hemispasm and general epilepsy.) The progress of irritation is generally as follows: from the field originally affected, the nearest approximate centre is affected, from there the next one, and so on. The convulsion passing to the other, *i. e.*, the homonymous side, the muscles are set in motion in a reverse direction, ascending from below to above. Cortical epilepsy, moreover, is distinguished by transient, or more or less lasting, hemipareses or real paralyses in the muscular regions, first invaded by the convulsions. Only such cases where these symptoms are present in a pronounced way, are considered by von Bergmann a fit object for successful intervention. It is self evident that trepanning alone is not the question in traumatic cortical epilepsy, that on the contrary the entire cicatrix is to be removed from the cortical part. Horsley has obtained in two cases good results by excision of the epileptogene cortical region, while in another case (just as the author himself in an interesting case) he operated without result.

In conclusion of his article, the author points out, as an indication of trepanation, the fixed, strictly localized headache which, after cranial contusions, frequently remains. At one time, the author trepanned a young girl who, six months before, met with the accident of a stone falling on the right side of the skull, and he found the bone materially attenuated; then, a quantity of old tar like blood oozed out, when the dura became visible. The removal of the old epidural sanguineous effusion has cured the patient permanently.—*Arch. f. klir* [illegible] *weg vol.* 36.

Cerebral Symptoms in the Pneumonia of Children.—Dr. L. Emmett Holt, Attending Physician to the New York Infant Asylum, in a paper read before the New York County Medical Society March 26, 1888, discussed the Cerebral Symptoms in the Pneumonia of Children. His paper was based upon an analysis of 173 cases, which were divided as follows:

Seventy-three were lobar pneumonia, with two deaths; and one hundred, broncho-pneumonia with a mortality of thirty-four. The sexes in broncho-pneumonia were nearly equal; while in lobar pneumonia the males predominated, forty-three to thirty. As to age, one hundred and twenty-three patients, he says, were two years of age or under, and only thirteen were over five years of age. Thirty-four cases, or twenty per cent. of the whole number, presented decided cerebral symptoms. These were divided into three groups: those attended by convulsions, of which there were fourteen; those in which delirium was the principal symptom, twelve in number; and the third class, in which neither convulsions nor delirium existed, but other symptoms decidedly cerebral in type—of these there were eight cases.

He concludes his paper with the following deductions:

1. Cerebral symptoms in the pneumonia of children are very common.

2. Convulsions belong almost without exception to infancy, being rarely met with after two years. Occurring at the onset, they belong essentially to lobar pneumonia; they do not indicate a bad prognosis, nor even, in most cases, a severe attack. When late convulsions come on, death within twenty-four hours may confidently be predicted.

3. Delirium comes oftenest between the ages of five and eight, usually in conjunction with extensive disease and high temperature. These cases, although severe, with but few exceptions recover.

4. There is no such intimate association between certain symptoms and apex disease, as has been frequently stated. Such symptoms occur in only about one-fifth of the apex cases.

5. Nervous symptoms occur much more frequently (one-third of the cases) when the disease is extensive and the temperature very high.

It was not my purpose to enter into the subject of the treatment of these symptoms in pneumonia, as I have nothing new to contribute. I wish to emphasize two points which my experience has taught me. The first is that in hyperpyrexia the cold pack is safe and the most efficient means to reduce the temperature and thus abate the brain symptoms dependent upon it. The second is the use of antipyrine, not so much for reducing very high temperature—for I think the cold packs are safer than very large doses, and altogether more satisfactory—but to allay restlessness, quiet delirium and cough, and promote sleep. For this purpose doses of two or three grains are sufficient in an infant of from six to nine months, and double the dose at eighteen months or two years. The dose may be repeated every six or eight hours.—*Medical Record*, April 7, 1888.

THE VALUE OF GALVANISM AS APPLIED BY APOSTOLI IN THE TREATMENT OF FIBROID TUMORS OF THE UTERUS.* (By F. H. Martin, Chicago.)—1. A means of generating a continuous current of electricity, of steady and uniform character, that can give an actual current strength through a resistance of two hundred ohms, of 500 milliamperes, is necessary in order to obtain all the benefits of this treatment.

2. Fibroid tumors of small size can be completely absorbed by the proper application of strong currents of galvanism.

3. Hæmorrhages from hæmorrhagic fibroid tumors can be promptly cured by the local coagulating effect of the positive pole when it is ap-

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*General Summary of a paper read in the Section on Obstetrics, American Medical Association, Cincinnati, May 10, 1888.

plied in-utero. Severe neuralgias, so often accompanying these troubles, can invariably be relieved by three or four applications of this treatment.

4. When the cervical canal can not be entered by any form of intra-uterine electrode, flexible or otherwise, after repeated trials, a negative galvano puncture should be made into the presenting part of the obstructing mass of the tumor and an artificial canal opened, which is to take the place of the inpenetrable uterine canal in all subsequent treatments.

5. The intra-uterine electrode should in all cases be negative, unless there is hæmorrhage or excessive leucorrhœa, when the positive pole is always required. The same patient may, however, present symptoms demanding the use of both poles at successive operations.

6. The strength of the current should depend entirely upon the amount of active surface of the internal electrode, and should be 25 milliamperes for each square centimeter of active surface in actual contact with the endometrium. If more is used, the concentration of the current will be sufficient to cause troublesome cauterization; if less is used, the concentration at any one point will not be sufficient to cause the necessary coagulation for checking hæmorrhage.

7. The duration of the treatment should be five minutes of the maximum current required.

8. The number of operations is necessarily dependent upon and influenced by the result to be accomplished. A severe hæmorrhage can be checked and symptomatic relief can often be accomplished by four or five seances, while a general reduction of the tumor necessitates many operations, varied of course according to the size and location. In some cases of large multiple tumors a relief of symptoms, or symptomatic cures, must be accepted as a substitute for an actual cure.

9. The operation should be intra-menstrual, if possible; if hæmorrhage is continuous, however, operate during flow. The seances can occur as often as every day with the system of concentration adopted that enables one to attack different portions of the canal at succeeding treatments, or treatment can be given with advantage as seldom as once a week.

10. Since the adoption of the flexible intra-uterine electrodes and Dr. Apostoli's vaginal galvano-puncture, extra-uterine puncture should be regarded, if at all, only as a last resort.

11. Galvano-puncture needles and the internal electrode should be constructed of material that is not injured by coming in contact with strong carbolic acid, or 1-1,000 bichloride of mercury solution. All internal electrodes should be thoroughly scrubbed with a nail brush and soap and water after each application, and allowed to remain in one or the other of these standard antiseptic solutions until they are to be employed again, when they should be washed in a weaker solution of the same before using. Before a vaginal puncture is made, the vagina should be thoroughly wiped out with a 1 to 3,000 bichloride solution.

12. There is no excuse for any percentage of mortality in the

proper application of this treatment. While Dr. Apostoli has had two deaths in 275 cases, he candidly admits that they were due to avoidable accidents rather than to any legitimate procedure of the operation.

13. In experienced hands, and by the adoption of the present means of concentration, the most delicate and sensitive patient can receive, without experiencing any severe discomfort, all the benefits to be derived from this valuable treatment.

WHAT IS THE INDICATION FOR THE VAGINAL TAMPON ?—When the late Dr. V. H. Talliaferro, of Atlanta, Ga., gave to the world his method of treating certain pelvic diseases by the vaginal tampon it was soon heralded as the proper treatment for all forms of uterine trouble. Various articles were offered as best suited for elastic pressure ; the failure to obtain satisfactory results being supposed to depend upon the failure to obtain a material that would give the necessary support without losing its own resiliency.

With a view to formulating a foundation upon which we may in future rest the merits of this mode of treatment, Dr. Thomas Addis Emmet (the first advocate for the use of hot-water vaginal injections in the treatment of pelvic inflammation), in a recent paper before the Society of Alumni of the Woman's Hospital, lays down the cardinal point that the *vaginal tampon is only beneficial after all acute symptoms have subsided.* It has been his experience that unless this principle is recognized, the indiscriminate use of this means of treatment will always be attended by unsatisfactory results, and with much unnecessary suffering to the patient. The class of cases in which special benefit may be derived from the use of the vaginal tampon is that in which the blood-vessels have degenerated into a varicose condition, and where this state of the veins has been brought about from the effect of local peritonitis with adhesions, from the loss of connective tissue and from injury where the fascia has been involved. We must realize, however, that we can only gain permanent good through the use of this agent after a long and tedious application, which may extend over the course of many months.—*Practice.*

ALCOHOLIC PARALYSIS.—In the *American Journal of Medical Sciences* for June, 1888, are two articles on alcoholic paralysis, one by Dr. C. W. Suckling, of London, the other by Dr. Byron Bramwell, of Edinburgh. Both agree as to the pathology ; the lesion of the nervous system associated with this paralysis being a multiple peripheral neuritis. Sensory disturbances such as myalgic pains, muscular tenderness and hyperæsthesia of the skin are marked symptoms in the majority of cases. Some cases are characterized by a wide-spread distribution of the paralysis, and the presence of well-marked nystagmus and paralytic weakness of the muscles of the eye-balls. The paralyzed parts are always flaccid and atrophied ; contracture may occur, but it is rare. The bladder and rectum are rarely implicated. The faradic irritability is usually diminished, and in severe cases it is entirely abolished, while the galvanic irritability is increased, and the contractions sluggish and prolonged, the reaction of degeneration being well-marked in bad cases. Vaso-motor changes are usually present, the extremities being red and sometimes œdematous, and occasionally presenting purpuric spots. The skin of the hands and feet is sometimes glossy, at others harsh and dry. The nails are frequently affected, being curved, rigid, opaque and brittle.

Mental symptoms are generally present; the memory is impaired; the patient is emotional; suffers from insomnia; dreams; restlessness; delirium and hebetude, together with digestive disturbances, such as morning sickness and retching. Such symptoms, says Suckling, occurring with ataxy or paralysis, render the diagnosis of the nature of these two symptoms tolerably certain.

The diagnosis is usually easy. The patient complains of pains, and loss of power in the legs, the feet are dropped and flaccid, and the toes cannot be pointed upwards. The grasp is feeble, but the upper extremities are often exempt from marked paralysis. Great pain is elicited if the calf-muscles are grasped, and there is tenderness along the nerve-trunks, and frequent cramps in the calf-muscles. The knee-jerk is absent; this might lead to a confounding of this disease with tabes, for loss of the knee-jerk, pains and ataxy are present in both diseases, but the pupil-symptoms of tabes are not present in peripheral neuritis.

The prognosis is usually favorable, if the nature of the disease be detected early, and the cause removed. As for treatment, rest in bed is necessary; if there is much pain, hot fomentations and anodyne liniments are useful. Opium must be given with care. Cocaine may be injected subcutaneously. Rubbing is of great value. Strychnia is regarded by Suckling as an invaluable remedy. But in all cases, the absolute withdrawal of alcohol must be insisted upon, or the case will end fatally.

Bramwell's article is of especial value as embodying personal researches in the pathological anatomy of this affection, as well as numerous cuts giving the microscopical appearances which sections of the degenerated nerves in a typical case presented. In many instances the nerve-tubes are seen to be shrunken and atrophied (their axis cylinders and white substance of Schwann having completely disappeared), and are either completely empty, or contain a granular and molecular debris. The degenerative changes affected principally the posterior tibial and plantar nerves; the posterior tibial artery was also atheromatous. Bramwell was disposed to think that the nerve-changes were due to a peri-neuritis, and the pressure of the inflammatory products on the nerve-trunk.

PROCEEDINGS OF SOCIETIES.

Clinical Society of London.

Friday, May 25, 1888.

W. H. Broadbent, M.D., F.R.C.P., President in the Chair.

Conclusions of the Myxœdema Committee.—Dr. Ord, as the Chairman of the Myxœdema Committee, read the following conclusions. He admitted that the time taken up in the investigation was protracted, but he claimed that when the results were known, the time would not appear out of proportion.

1. That myxœdema is a well defined disease.

2. That the disease affects women much more frequently than men, and that the subjects are, for the most part, of middle age.

3. That clinical and pathological observations respectively indicate, in a decisive way, that the condition, common to all cases, is destructive change of the thyroid gland.

4. That the most common form of destructive change of the thyroid gland consists in the substitution of a delicate fibrous tissue for the proper glandular structure.

5. That interstitial development of fibrous tissue is also observed very frequently in the skin, and with much less frequency in the viscera, the appearances presented by this tissue being suggestive of an irritative or inflammatory process.

6. That pathological observation, while showing cause for changes in the skin during life, for the falling off of the hair and the loss of the teeth, for the increased bulk of the body as due to the excess of subcutaneous fat, affords no explanation of the affections of speech, movement, sensation, consciousness, and intellect, which form a large part of the symptoms of the disease.

7. That chemical examination of the comparatively few available cases fails to show the general existence of an excess of mucin in the tissues adequately corresponding to the amount recorded in the first observations, but that this discrepancy may be in part attributed to the fact that tumefaction of the integuments, although generally characteristic of myxœdema, varies considerably throughout the course of the disease, and often disappears shortly before death.

8. That in experiments made upon animals, particularly on monkeys, symptoms resembling, in a very close and remarkable way, those of myxœdema have followed complete removal of the thyroid gland, performed under antiseptic precautions, and with, as far as could be ascertained, no injury to the adjacent nerves, or to the trachea.

9. That in such experimental cases a large excess of mucin has been found to be present in the skin, fibrous tissues, blood and salivary glands; in particular the parotid gland, normally containing no mucin, has presented that substance in quantities corresponding to what would be ordinarily found in the submaxillary gland.

10. That the full analysis of the results of the removal of the

thyroid gland in man demonstrates, in an important proportion of the cases, the fact of the subsequent development of symptoms exactly corresponding with those of myxœdema.

11. That in no inconsiderable number of cases the operation has not been followed by such symptoms, the apparent immunity being in many cases probably due to the presence and subsequent development of accessory thyroid glands, or to accidentally incomplete removal, or to insufficiently long observation of the patients after operation.

12. That whereas injury to the trachea, atrophy of the trachea, injury of the recurrent laryngeal nerves, injury of the cervical sympathetic, and endemic influences have been by various observers supposed to be the true causes of experimental or of operative myxœdema (cachexia strumipriva), there is, in the first place, no evidence to show that of the numerous and various surgical operations performed on the neck and throat, involving various organs and tissues, none save those in which the thyroid gland has been removed, have been followed by the symptoms under consideration , that in many of the operations on men, and in most, if not all, of the experimental operations done by Dr. Horsley on monkeys and other animals, the procedure avoided all injury of surrounding parts, and was perfectly aseptic ; that myxœdema has followed removal of the thyroid gland in persons neither living in nor having lived in localities the seat of endemic cretinism ; that therefore the positive evidence on this point outweighs vastly the negative, and that it appears strongly proved that myxœdema is frequently produced by the removal, as well as by the pathological destruction of the thyroid gland.

13. That whereas, according to Clause 2, in myxœdema women are much more numerously affected than men, in the operative form of myxœdema no important difference of the same kind is observed.

14. That a general review of symptoms and pathology leads to the belief that the disease described under the name of myxœdema, as observed in adults, is practically the same disease as that named sporadic cretinism, when affecting children ; that myxœdema is probably identical with cachexia strumipriva ; and that a very close affinity exists between myxœdema and endemic cretinism.

15. That while these several conditions appear in the main to depend on or to be associated with destruction or loss of function of the thyroid gland, the ultimate cause of such destruction or loss is at present not evident.

The President congratulated the Society on the completion of this important investigation, and said their thanks were due to the Committee for the enormous work and the zeal and ability which had enabled them to present this summary of the report, and practically the report itself, during the present session. When they heard the conclusions and imagined the enormous amount of investigation and research and inquiry which was embodied therein, four years seemed a comparatively short period for the completion of such a labor. The report would make the present session memorable. It reflected the greatest possible credit upon the Society. It was the most important work yet carried out in its name. Already the labors of the Committee had served to stimulate the carrying out of similar investigations in Germany, where men had been first convinced of the reality of the disease from the labors of the Society and its Committee. He thought the members could hardly thank sufficiently the authors of the report, in which it appeared that the only person not heard of was Dr. Ord, the chairman and director of the investigation. His name, nevertheless, would for all time be associated with the literature of the disease.

Two Fatal Cases of Acute Intussusception occurring in Infants, aged 3 and 4 months respectively.—Mr. R. W. Parker related particulars of these cases. He drew chief attention to the uncertain onset, and to the absence of symptoms indicative of acute strangulation, such as the post-mortem examination proved in these cases to have existed. The pain was not excessive, and was short in duration; vomiting occurred only during the first twelve hours, and only after taking the breast; in neither case was much blood-stained mucus discharged from the rectum; and there was never any straining or tenesmus. Constipation was the most important feature. The author argued that the absence of some of the most classical symptoms, or their very slight prominence, was a bad rather than a good sign, especially so in cases where an intussusception was, from other indications, known to exist. Thus, if the gut were tightly strangulated it would quickly become gangrenous, and therefore painless, and as the circulation through the gut would be arrested nothing could pass from it or through it, hence constipation, as well as an absence of blood and mucus. The difficulty of satisfactorily treating such cases was dwelt on.

Dr. Fordyce Barker, New York, in response to an appeal from the President, expressed his sense of the compliment, and said that he had seen quite a number of these cases. In early stages of the malady he would inject glycerine in small quantities, such as one or two drachms, with equal quantities of water, until toleration was established; and then continue such injections until quite a large amount was used. He thought that surgery did not seem to offer much chance of curing the condition.

Mr. Harrison Cripps remarked that there was not complete absence of blood-stained mucus, as dwelt upon by Mr. Parker, in his case, though it was present only in small quantities. As to treatment, he was glad that Mr. Parker had called attention to the danger of injecting water, except in an early stage. He had had a similar accident himself, and had since been very careful as to the amount of pressure employed, except quite at the beginning. The patient was a girl, eighteen months old, with symptoms which had lasted four or five days. The intussuscepted bowel was felt two inches from the anus. Water was gently injected, and the bowel receded; the head was then inverted and more water used. The child became faint, vomited, and in two or three minutes died. At the post-mortem examination the strangulated bowel reached to within five inches of the anus. There was a rent of considerable size just below it, and water and oil were found in the peritoneal cavity. The injection had been made very gently with a Higginson's syringe. Another interesting case which came under his notice was that of a child seven months old with a history of a fortnight's illness, with vomiting and what the mother called diarrhœa, but which turned out to be the passage of the characteristic blood-stained mucus. The symptoms, however, had passed off during the two days just before the child was seen, and the mother had only brought the child along on account of something "sticking out of his back passage." On examination, something that looked like part of a red herring was seen projecting, on gently drawing out which it was seen to lead to what looked like a healthy intestine. Mr. Cripps contented himself with cutting off the slough, and admitted the child under Mr. Baker. The child remained in the hospital for about a month, during which time every day the house-surgeon removed a piece more of this extruded slough. Ultimately the child left perfectly well, but died of scarlet fever eight months later, when a post-mortem examination was made, the specimen being now in the hospital museum. The most extraordinary condition of things was found: the small intestine being found directly attached to the anus. There was no trace of ascending, transverse, or descending colon, nor rectum, which must have come away as a slough. This case showed what Nature would sometimes do if she was only given a chance. Early in these cases he advised a trial of injections or laparotomy and the unravelling of the intussusception. Later, where there was much vomiting, he recommended Nélaton's operation, the opening of the most prominent coil of intestine through the abdominal wall. Large quantities of fæculent matter would pass by the new opening, whilst Nature might be able to remove the invaginated bowel, and possibly leave the intestine patulous.

The President remarked that no member had spoken of the use of gaseous instead of liquid injections.

Mr. Parker in reply said that should another opportunity occur, he should remember Dr. Fordyce Barker's suggested plan of treatment. The blood-stained discharge was very slight in his case, and only occurred at the beginning. At the latter part of the case it came only when the finger was introduced into the rectum. In Mr. A. E. Barker's case, which was to have been read there that evening, the tumor was felt from the front of the abdomen. Early treatment he thought should consist of enemata of water, which was possibly better than air, as one could easily calculate the quantity of water which was injected.

Rupture of Intestine without External Wound.—Mr. Herbert Page described two such cases. He said that the interest attaching to the paper by Mr. Mayo Robson and the discussion upon it on February 10th had led him to contribute two cases in which laparotomy was fully considered; moreover, one of them exemplified a point to which no reference was made on that evening. Case 1 was that of a man æt. 50 years, over whose right iliac region a cab had passed on the morning of April 5th, and who was admitted into St. Mary's Hospital the following day in great pain and with very marked collapse. Rupture of intestine was diagnosed, but the amount of collapse seemed entirely to forbid laparotomy. There was no improvement during the day, and he died the next morning, forty-four hours after the accident. A rupture of the small bowel was found four feet and a half above the ileo-cæcal valve; and, in addition to some smaller contusions in the cæcum and neighboring ileum and much mesenteric extravasation, there was a knuckle of deeply-congested gut an inch and a half in length. It was thought that, even if laparotomy could have been done soon after the accident, when diagnosis probably could not have been at all sure, and the ruptured portion had been satisfactorily dealt with, this other piece of bruised intestine could hardly have been left alone. The danger of leaving it—namely, of secondary perforation from sloughing—was by no means imaginary, as was shown by the history of the second case, that of a lad æt. 18 years, who was butted in the belly—left iliac region—while at play with some other boys. He instantly had intensest pain, and when admitted to St. Mary's, sixteen hours afterwards, on July 27th, gave a history of incessant vomiting since the accident. There were external signs of severe contusion, and marked evidences of local peritonitis, to which his symptoms were regarded as due, but there was nothing specially suggestive of perforation, or of the need for opening the abdomen. Opium was accordingly given, and during the next three days there was undoubtedly improvement. On the night of the 30th, however, there was sudden and alarming collapse. He rallied from this, and for three days seemed doing well again, but on August 3rd collapse returned. From this there was no decided rally, and he died on August 6th. Necropsy revealed extensive hypogastric peritonitis, and offensive pus in the left iliac fossa, where the blow had been sustained. A perforation was found in the small intestine, in the centre of a deeply-congested sodden portion. This opening had thickened edges, and was surrounded with lymph. It was believed that this perforation occurred only on the fifth day after the accident, as the result of the sloughing of a portion of severely contused gut, and the author pointed out that had laparotomy been done when the lad first came to the hospital, no more difficult question could well have presented itself than that of determining whether this contused piece ought or ought not to have been resected. In neither of the cases was it thought that the chances of successful laparotomy were anything but the very poorest, but yet, as laparotomy alone gave a hope of life, it was, perhaps, right to operate, even though gravity of symptoms and uncertainty in diagnosis seemed to forbid it. It must be rare to meet with cases of abdominal injuries where there was no complication of any kind, or in which a simple rupture in one place was the only lesion, and these were considerations to be borne in mind when laparotomy was undertaken or entertained.

Mr. Croft read the notes of a similar case in a man, æt. 34 years admitted on March 16, 1887, having been injured in a row seventeen hours before. On admission his temperature was 103°. He at once cut down, and found three different lesions: a ruptured ileum, a lacerated mesentery, and a perforated omentum. The peritoneum was irrigated with a warm solution of boracic acid. An artificial anus was made, but it was found necessary to close this. On the second operation on April 4th, the laceration was sutured, the operation taking two hours and a quarter, and the man being very prostrate. The man died thirteen hours after the operation from sheer exhaustion. He considered the case to be a crucial one in the history of intestinal surgery, as showing that resection of the bowel might be safely undertaken even when acute septic peritonitis had been set up. He strongly advocated early exploratory laparotomy, with resection if necessary. In cases of doubt an exploratory incision should always be made. He would divide the cases into three classes: 1, those in which laparotomy was done for exploratory purposes; 2, those done later, where the diagnosis was already established; 3, those later still, in which septic peritonitis had occurred. Everything was in favor of exploratory laparotomy, as stated in an able paper by Dr. Chavasse. If the abdomen were opened with all precautions, the patient was afterwards no worse off than before, even if no lesion of intestine were found, whilst, if a distinct laceration of the bowel had occurred, then was the time to operate. He thought the establishment of an artificial anus was not so successful as resection of the injured intestine and immediate closure of the external wound. In his own case he had followed the advice of several eminent metropolitan surgeons. The operation saved the man's life at the time; but in consequence of the malnutrition resulting from the too early escape of partially digested food he could not bear the tedious second operation of resection of the bowel. Had the resection been done at first he believed the life would have been saved. When the case was known to be one of ruptured intestine the surgeon should promptly decide in favor of resection. The peritonitis already established might be thereby abolished by the antiseptic method of operation.

Case of Stone in which Lithotomy was Performed Twice within Two Months.—Dr. Ward Cousins (Southsea) described the case, and said that it suggested the purely local character of some urinary formations. The patient, æt. 40 years, a fish dealer, was admitted into the Royal Portsmouth Hospital in January, 1882. There was no family history of gout, rheumatism or urinary trouble. He had suffered thirteen years from renal and vesical symptoms, and had constantly passed small stones and gravel; altogether he had discharged over half a pint. He had been a great sufferer, and during the nine months before his admission he had been confined to bed. The urine was extremely offensive, and loaded with muco-pus. It often contained blood and small clots. The left loin was extremely tender and painful, and he had had many attacks of orchitis in the same side. On sounding there was no ring or thud, but the bladder was filled with an immovable mass. Two ounces and a quarter of stinking concretion of the consistence of fresh mortar were removed by lateral lithotomy. He left the hospital well in a month. Three weeks later he returned with a stone lodged in the neck of the bladder. After many failures to seize it with long forceps, and other efforts to return it into the bladder, so that it could be crushed, median lithotomy was performed. He was again discharged, apparently well, in three weeks. During the past six years he had enjoyed good health, and had daily carried on his business. The urine had been frequently examined. It still contained a trace of muco-pus and albumen. No renal elements had been detected by the microscope. The urea was always a little below the normal, varying from 1.3 to 1.7 per cent. Since the operations he had never passed any gravel or particle of stone. He was in good health on May 20th, 1888. The dried concretion removed from the bladder at the first operation, and also the urethral calculus extracted at the second operation, were exhibited. Dr. Cousins then remarked that the history of the case, the symptoms, and the persistent discharge of small concretions clearly indicated that the patient was the subject of chronic calculous pyelitis, and that part of the renal gravel passed along the urinary passages and escaped through the urethra, while another portion was trapped in the bladder. At the time of the operation the calculous mass presented throughout a uniform appearance. In consistency it resembled fresh mortar, and there were no traces within it of concentric deposition. An analysis of the symptoms suggested the presence of a compound renal and vesical disease, although the most urgent manifestations pointed clearly to disorder of the bladder. A group of renal symptoms, radiating from the left groin, were present throughout the illness, but these were in a measure overlapped by the characteristic signs of bladder trouble. The composition of the urine, however, and the continuous discharge of small concretions, rendered the existence of chronic pyelitis or nephro-pyelitis clearly evident. With reference to the treatment, the dangerous and prostrate condition of the patient suggested an immediate effort to clear out the bladder, and to establish continuous drainage. The presence of a foreign body of some kind was certain from the examination ; at the same time, the absence of any click or thud, the roughness of the surface, and the immobility of the mass, rendered it probable that some complication would have to be encountered. The lateral incision was selected for the purpose of obtaining a thorough exploration of the bladder. The operation insured a free and incontinent escape of urine, with complete rest for the diseased organ, and removed at once all painful micturition and straining. It permitted moreover, the effectual drainage and washing out of the diseased vesical cavity. The cystotomy had a very beneficial influence over the whole urinary track, as the discharge of all the renal products was secured directly after their formation. The second lithotomy was done to relieve the acute sufferings of the patient after many failures to remove the calculus through the urethra, or to return it into the bladder, so that it could be seized with a lithotrite. During the last six years the patient had enjoyed good health. The old vesical symptoms had never recurred, and he had never passed a particle of calculous matter. Still the cure was not actually complete. The urine contained a few pus cells mixed with epithelium shed from some part of the lining membrane of the urinary passages. Ought the case to be regarded in the light of a local trouble, and all its manifestations the outcome of a chronic calculous pyelitis? Or, on the other hand, must it be considered as a constitutional disease? The subjects of urinary concretions were generally described as laboring under some sort of diathetic tendency. Sometimes the existence of a special diathesis was only a conjecture, and pathological processes limited to the urinary track itself were quite sufficient to explain the precipitation and concretion of the ordinary constituents of the urine. The disorder in this case probably broke out in the pelvis of one kidney by the occurrence of a pyelitis. Then followed the deposition of the uric acid in the solid form. At the same time the inflammatory elements themselves served as points of deposit for the formations. The cause of the pyelitis was obscure, and whatever morbid forces might have been active during its initial stages, when once it was established it could be fairly regarded as the chief factor in the production of the renal gravel and small concretions. With a concentrated condition of the urine, a persistent obstruction to its discharge, and the presence of muco-purulent secretion, some of the exciting causes were present which tended towards the deposit of calculous matter, without an abnormal increase in the excretion of uric acid.

Dr. Ord thought the consideration of the case very important, and suggested that a committee should report upon it.

Dr. Maguire referred to Sir W. Roberts' researches upon the matter.

The President nominated Dr. Ord, Dr. Maguire and Dr. Garrod, with Dr. Ward Cousins, as a Committee to report upon the case, and expressed the hope that the report might be concluded in time to permit of its publication with Dr. Cousins' case in the forthcoming volume of the Society's *Transactions*.

The session then terminated.

THE SEVENTH CONGRESS OF INTERNATIONAL MEDICINE, HELD AT WIESBADEN, GERMANY, APRIL 9–12, 1888.

THE DISCUSSION ON ALCOHOL AS A THERAPEUTIC REMEDY.

Dr. C. Binz, of Bonn, referee, said: From remote antiquity alcohol or wine has been regarded as medicinal. The Middle Ages called spirit of wine *aqua vitæ*, *aqua juventutis*, *eau de vie*, *eau de jouvence*, etc. In the seventeenth and eighteenth centuries alcohol was recommended in febrile states. Still later, and in our own day, as many of us well remember, its therapeutic use went out of fashion, and it was considered almost an indictable offense to prescribe even champagne for the sick. As late as 1865, Carl Otto Weber, our eminent surgeon in a popular treatise denounced the use of wine in fevers.

The reaction against this extreme view commenced in England, and went so far that even to-day we are obliged to sound the note of caution against the abuse of alcohol as a therapeutic agent.

Alcohol possesses three properties of which we avail ourselves in therapeutics. It is an excitant, an aliment and an antipyretic.

(1.) The excitant action of alcohol cannot be called in question After the experiments of Claude Bernard, those of Parkes have proved that moderate doses of alcohol under the form of cognac, Bordeaux wine, etc., raise the action of the left ventricle. Experiments made in my laboratory have given absolute confirmation to this view. Small doses raise the blood pressure; large doses lower it. The activity of respiration is also enhanced by alcohol in small doses. Zuntz has found an average augmentation of 9 per cent., my assistant a mean of 7 per cent., and with good sparkling Rhine wine 15 per cent. even. This increase, observed in the healthy man, is probably much greater still in patients in collapse.

Experiments oblige us to admit in theory that alcohol produces a retardation of digestion; but I believe that the quantity administered plays here a preponderant *rôle*, for we find in practice that alcohol is remedial in slight gastric ailments.

(2.) The nutritive quality of alcohol cannot be constituted by any property which it possesses of tissue reparation; it is a respiratory aliment. The nutritive value of alcohol is, however, indisputable. Alcohol does not (as has been affirmed) pass through the organism without undergoing any alteration. It does not leave the economy in its totality and unchanged. My experiments have shown that only 2.9 per cent. of alcohol administered to a healthy man is eliminated as alcohol; 1.17 per cent. is excreted by the kidneys; 1.60 per cent. by the lungs; 0.14 per cent. by the skin; all the rest—that is, 97.1 per cent.—is burned in the organism. Now, the production of heat is a vital condition. A quart of good Rhine wine produces as much heat—that is, possesses as much respiratory nutritive value—as five or six tablespoonfuls of good oil, and is easier of assimilation.

The experiments of Zuntz and Goeppert prove that moderate doses of alcohol hardly modify at all in a healthy man the absorption of oxygen and carbonic acid production. The alcohol, then, has simply produced an augmentation of heat. These medium doses economize force and matter, because they diminish from 6 to 7 per cent. the decomposition of albumen. It is true that large doses accelerate the decomposition of this proximate principle (and this is an argument for moderation); and it is also true that the organism under disease obeys other conditions than the organism in a state of health, and patients in prostration or collapse can ingest large quantities of alcoholic stimulants without manifesting any symptoms of acute intoxication. Moreover, alcohol, when exhibited for therapeutic purposes, is given in small doses frequently repeated.

(3.) I have mentioned as the third property of alcohol that of lowering the temperature. This may seem paradoxical, as alcohol is popularly said to be "heating," but just here there is a little confusion. Alcohol produces a feeling of comfort. It dilates the vessels of the stomach and skin. This dilatation is perceived under the form of heat, and this is the reason why alcohol is called "heating." I have collected 126 thermometrical observations, and have found that alcohol in small quantity exercises no influence on the temperature of the healthy adult; that medium quantities lower the temperature from 0.3° to 0.6°, and that large quantities produce a fall of several degrees during several hours.

One of my experiments was to produce an intense fever in two dogs by the injection of putrid substances. One of these dogs was treated by alcohol, while the other was left without treatment. In the dog that was dosed with alcohol the temperature fell from 40.6° to 39°. As soon as the temperature rose again alcohol was again administered with the same effect. Finally the dog got well. The other dog that got no alcohol died of putrid intoxication.

An advantage which is not to be lightly thought of in practice is that alcohol may be administered under different forms.

In order well to define our position as physicians in our relation to the temperance and prohibition societies, I would express myself thus: All that I have said pertains to the sick. The healthy man has no need of alcohol, and if he indulges in ardent spirits he does this solely for his own pleasure and at his own risk. I place alongside of the whiskey nuisance the beer nuisance. The habit of taking alcoholic stimulants apart from meals is a public evil from a sanitary, economic and intellectual point of view. The inveterate beer drinker is as much under the dominion of alcohol as the brandy drinker, and the greater sinner of the two.

Dr. Von Jaksch, of Gratz, Co-referee, continued the discussion: Dr Binz has considered the qualities of alcohol from a physiological point of view; I shall speak only of its therapeutic applications. I have endeavored, in order more fully to understand its real value as a medicine, to apply the tests of clinical experimentation by giving alcohol under the form of wine or cognac, and with due precautions, to persons not accustomed to the use of alcoholic stimulants, as children.

Small quantities of alcoholic beverages (one to three grammes) produce in children, first, a diminution in the pulse. This is followed immediately by an augmentation; the pulse is not only quickened, but strengthened. Must we conclude from this that we are justified in utilizing this excitant quality of alcohol in all diseases without distinction? Assuredly not. It is *weakness of the heart* in affections accompanied by intense febrile manifestations that calls for alcohol, in cases of collapse and traumatic hæmorrhages (as in puerperal women), alcohol often saves life.

As for the second quality of alcohol, its nutritive value, the opinions of physiologists may differ, but to the sick person this quality is a settled fact, and the clinical observer has no doubts regarding it. Thus far, experiments have been largely made on healthy adult individuals more or less accustomed to alcohol; this is why I have undertaken similar experiments with sick children. The result has always been a notable diminution in the quantity of urea excreted.

As for the special applications of alcohol, its use in diphtheria, recommended as far back as 1806 by Jastus, seems to me to be underrated. I cannot•say that alcohol is a specific in diphtheria, but this agent, administered in large doses at the onset of the disease, seems to me to constitute the best treatment of this affection.

In typhoid fever, by the side of cold baths, alcohol has a great value. It acts as an excitant and as a food. The functions are raised, and the patients feel better. But precisely in these cases, where Stokes was the first to recommend alcohol in 1839, a frightful abuse has been made of this agent, and I need only instance that English physician whose patient consumed during an attack of typhoid fever twenty-one quarts of brandy and twenty-four bottles of champagne. By such treatment you can doubtless cure typhoid fever, but you are almost certain to make your patient an inebriate.

In septic poisoning, alcohol is *par excellence* the remedy, and simply indispensable.

The last quality of alcohol, its antipyretic action has been proved by the clinical experimentation of Riegel, of Giessen. But I do not make much account of this quality, all the non-specific antipyretics having little value clinically.

As for the influence of alcohol (when administered with therapeutic intent, be it understood) on digestion, it certainly does not impair this function, while, at the same time, this influence can hardly be favorable, except in cases which present no grave anatomical alterations of the digestive passages.

Alcohol possesses still a hypnotic action which does not manifest itself in feverish patients, but in the neurasthenic. It is true that in recommending it for such patients we must use special precautions, and take into account individual temperaments and idiosyncrasies. Beer acts better as a hypnotic; I cannot say whether this effect is due to the alcohol alone, or in part to other elements which enter into the composition of beer.

As for the form under which to administer alcohol, I would say that when you wish to avail yourself of its excitant quality, you should employ the stronger (distilled) liquors; when you wish to utilize its nutritive quality, you should give the light (white or red) wines; when you desire a hypnotic effect, it is to beer that you should give the preference.

Dr. W. H. Erb, of Heidelberg: Alcohol is doubtless a therapeutic remedy which nobody would wish to be deprived of, but the contra-indications should be well understood. The gentlemen who have just spoken have told you of the immediate effects of alcohol, but there is still another, a secondary effect, the depressant effect, commonly experienced the morning after copious libations. Is it possible that this effect is not felt also by patients to whom alcohol has been freely administered, especially by those who are little, if at all, used to stimulants, such as women and children? It seems to me very necessary to have in mind this possibility.

When a powerful stimulation is indicated, instead of alcohol alone, I prefer alcohol associated with some other stimulants, as musk and camphor.

Another question presents itself to my mind: May not alcohol be deleterious in certain diseases by irritating the organs concerned, in its elimination (the lung in cases of pneumonia, the kidneys in nephritis)? Observations are wanting on this point, but it is well to call the attention of practitioners to it.

The unhappy consequences of the prolonged usage of ardent spirits by well persons may also be experienced when alcohol is given with therapeutic intent. I need only remind you of instances of the kind sometimes occurring in phthisis. In giving utterance to these few remarks I do not wish to be misunderstood. I am not an opponent of alcohol, but prescribe it often.

Dr. Merkel, of Nuremberg: In pneumonia alcohol has given me good results, especially in averting asthenia and collapse; its prolonged use, however, seems to me detrimental. I fear that our young practitioners are inclined to give too large quantities of alcoholic stimulants at the onset of diseases, little care, choice or judgment being exercised. It would be well if clinical teachers would put their pupils on their guard against this abuse.

Dr. H. Nothnagel, of Jena: I have heard the appeal to clinicians against the abuses of alcohol. But what remedy is there which does not give occasion to abuses? Has this not been the case with electrotherapy, hydrotherapy, iodide of potassium, antipyrine, etc., which have each and severally been administered for all affections imaginable?

Permit me to point out a different kind of abuse, which cannot be too strongly condemned; I refer to the habit of giving wine or beer to children. In certain classes of society children from two years old and upward are regularly dosed with these liquors. This practice is an abominable one. The healthy child has no need of excitants, and the habit which I am denouncing destroys, or at least enfeebles for a whole lifetime, the nervous resistance of the organism.

Dr. T. Juergensen, of Tübingen: Perhaps the reproach of Dr. Merkel is made in part to me, since for twenty years or more I have made use of wine as a remedy. In basing myself on this experience I think that I can answer Dr. Erb's questions. The secondary depressing effects which make themselves felt in the well man—do they also exist in the feverish patient? I believe myself warranted in saying no. Moreover, I have never seen any irritation of the organs by which alcohol is eliminated; we must not forget also that it passes out of the body in a very dilute state. Lastly, chronic alcoholism does not follow the therapeutic usage of alcohol by fever patients, who are generally only too glad to give up the use of spirits when allowed to do so.

Dr. Ruchle, of Bonn: I have also observed certain deplorable effects from the administration of alcohol in acute diseases; for example, acute alcoholic delirium in cases of pneumonia. In chronic affections of the myocardium, alcohol is serviceable along with digitalis in maintaining the vigor of the heart.

Dr. Finkler, of Bonn: A word only respecting the antipyretic action of alcohol. The stronger antipyretics, antipyrine, antifebrine, etc., have spoiled us for the weaker ones. At the same time, is this sudden and considerable fall of the temperature always desirable? Quinine and alcohol do not act so quickly, it is true, but their effect is more lasting, and they also have certainly an antiparasitic action.

Dr. Von Jaksch: I agree with Dr. Erb that alcohol is contra-indicated in acute affections of the brain and kidneys. As regards the question of chronic alcoholism consecutive to the therapeutic employ of alcohol, I cannot accept the opinion of Dr. Juergensen without reserve.

NEW BOOKS AND PAMPHLETS.

GENITO-URINARY DISEASES WITH SYPHILIS. By E. L. Keyes, A.M., M.D., Professor of Genito-Urinary Surgery, Syphilology and Dermatology in Bellevue Hospital Medical College, etc. A Revision of Van Buren and Keyes' text-book upon the same subjects. New York, D. Appleton and Co., 1888.

We are relieved, in taking up the present volume, from entering into any debate as to whether it is a book in season and not a supernumerary volume to be untouched on the shelves of those who have the money to buy, but neither the inclination nor the time to read: in other words, those who purchase books because they are able and may possibly thereby impress others with the idea that they are informed about all the books they possess.

From the date of its issue from the press, the original volume of Drs. Van Buren and Keyes rapidly found its way into the hands of the hard working and hard thinking members of the profession, not to be lain aside for occasional reference, but much more frequently to be used as a guide in every day practice. This was in 1874, and since that time not a little has been added to the troubles of which it treats. In the words of Dr. Keyes, "The whole subject of litholapaxy has had its birth, supra-pubic cystotmy has been restored to a new life; the surgery of the kidney has been constructed anew, and radical changes have been introduced into the surgery of the tunica vaginalis and that relating to the treatment of varicocele."

Not only is this true, but there are numberless minor points which it would be impossible to attempt to enumerate, cropping out here, there and everywhere, some as the results of the glorious stride made by asepsis and antisepsis, some as the results of improved instruments and others still as the result of microscopical advances; so we are not disappointed in the authors' assertion: " there are comparitively few pages in which interpolations of more or less importance have not been made."

The plan of the present edition follows out systematically that of the original book and it is unnecessary for us to consider and give it at length; we may say of it in general (and in the words of the original preface) that it is based upon an anatomical classification of the tissues and organs of which the diseases and deformities form the subjects of discussion. We will, therefore, take up without further prelude the points that seem to be worthy of special attention. On the subject of circumcision—the instructions in regard to which are given with remarkable clearness, the author not unwisely says: "It is better to perform this operation with the aid of ether." Doubtless circumcisions are fairly satisfactorily done every day with cocaine; but when we consider the œdema, the restlessness of the patient, the inevitable pain and often the annoyance in other ways, we may fairly consider that ether is indicated; but the author, it seems to us, has made a mistake in claiming union by first intention and in the same breath, saying: "the horse hair sutures spontaneously cut their way out without suppuration and *come away in the scab.*" And again: "The long ends of the horse hair sutures may be trimmed down close to *the scab.*" Unless we are misinformed the word "scab" contradicts the idea of primary union.

We have never seen any where a more satisfactory, simple, common sense treatment of the subject of Gonorrhœa, Bastard Gonorrhœa and Urethritis. The author has judiciously refrained from loading down the text with the thousand and one drugs which have been recommended for Gonorrhœa: instead we find a plain, sensible statement of what he knows from oft repeated experience to be efficacious. The remarks on Gonorrhœal Opthalmia are timely and excellent, but we would suggest that in a bad case, we would hardly let two or three hours pass between the dressings; we may also add that it would not have been amiss to call attention to the value of the mitigated nitrate of silver (a pencil composed of equal parts of nitrate of silver and nitrate of potash) and to the necessity of watching the results of cauterization in order to ascertain the time at which the secretion has recommenced, in order to know the time that should elapse between cauterizations. Both definitions given of stricture are plain enough though neither would pass the strict requirements of logic. On page 140 we find the expression "healthy pus" to which we join Dr. Gerster in entering a protest. "Pus," he says, "is never laudable, it always is a menace to the health and integrity of the animal organism." The recapitulation of symptoms of Stricture (p. 145) is excellent, as are also the several comparative tables on this and other subjects given throughout the course of the work.

The author stoutly maintains that the prostate has but two lobes and he has unquestionably in Thompson, Hunter, Couveillhier and others excellent company; but the point is certainly a debatable one. Type Case (p. 183), fragment (p. 290) and functionate (p. 316) are questionable from the standpoint of strict English—however the meaning is sufficiently clear even if we can not favor the phraseology.

We are inclined to think that the sentence (p. 284) "the form of renal degeneration, known commonly as Bright's disease," is misleading; nor would we agree that albumen in the urine and casts of the uriniferous tubes—if the latter were not very abundant and hyaline prevailed—would constitute a grave objection to operative interference of any kind for stone in the bladder. But in no part of the work do we find more satisfaction than in reading the chapters on diseases of the bladder. Only surgical diseases of the kidney are considered: only a reference is made to the *forms* of Bright's Disease. In speaking of syphilis of the kidney (p. 354) the author calls attention to the albumen and pale casts of patients taking Potassium Iodide; and again (p. 584) when speaking of the bad effects of the iodide; but is it not much more probable that, even in the few cases in which such phenomena occur, the albumen and casts are not due to the drug as a proximate cause; indeed J. Mitchell Bruce says: "the iodide may be used in some forms of chronic Bright's disease, combined with other remedies" (though he also states that the diurectic effect depends probably upon the alkali and not on the iodine). We suppose that the word "oscheolasty" must be a typographical error, for "oscheoplasty" (p. 360). The author does not seem to attribute the same value to puncture or a limited incision in cases of epididymitis that Ashhurst does in his "Principles and Practice of Surgery" (p. 457); and we are not so sure that epididymitis habitually terminates in resolution (p. 401). The case given on p. 489 is unquestionably irregular, but is it not probable either that the patient did have a sore meanwhile and did not acknowledge it, or that the enlarging glands escaped notice? This seems much more probable than that the buboes in November or December were due to the Chancroid in February. There are two lines of treatment of buboes which the author does not seem to have noted—one, the excision of the whole gland, under favorable auspices, before suppuration an excellent procedure, the other the wet bichloride dressings (1 to 1,500 or 2,000) after the bubo has been incised, the latter giving as nice results as could possibly be desired or reasonably expected.

The characterization of *Succus Alterans* and other of the numerous drugs offered by charlatans as "specifics" meets with our warm approval. It is only this decided stand on the part of the better men in the profession that will finally prevail with sensible men in regard to their using nostrums. Not less sensible are his remarks on the

Hot Springs of Arkansas. After the lengthy discussion of the differential points between Chancre and Chancroid it is not a little interesting because so true—to find (p. 555) "To be positive on such an important point requires more evidence than is furnished by the simple physical characters of the sore, be they ever so positive." We do not exactly see that the *a fortiori* argument applies (even though we do agree in the clinical fact) to the use of mercury in all cases, because in severe cases it is of value. A moment's reflection would show us that quite different conditions might obtain in the two cases—we could easily imagine that there was such a disposition of the tissue elements in a severe case as would favor the assimilation of mercury; whereas in slighter cases it might act only as an irritating foreign body. We repeat that it is not a logical necessity but a clinical need.

In speaking of the mode of administering potassium iodide (p. 577) we are surprised to find no mention of a favorite method of administration, viz. in coffee. The chapter on Syphilis of the Eye is by Dr. Noyes and is excellent. Inherited syphilis is not treated at great length though the main points are satisfactorily stated. The whole consideration of Chancroid and syphilis, constituting Part II, and occupying 228 of the 688 pages is thoroughly practical and eminently satisfactory. The skin lesions are concisely stated; and the main points in differential diagnosis well given. The work as a whole is undoubtedly entirely deserving of the abundant patronage it has received. The only typographical errors noticed were an h out of place (p. 454), demarkation (p. 474), an overlapping of the lines (p. 579) and the one we have already mentioned; but it is seldom that even such slight mistakes creep into one of Appleton's publications.

THE PRACTICE OF MEDICINE AND SURGERY APPLIED TO THE DISEASES AND ACCIDENTS INCIDENT TO WOMEN. BY W. H. Byford, A. M., M.D., Professor of Gynæcology in Rush Medical College (Chicago), etc., and Henry T. Byford, M.D., Surgeon to the Woman's Hospital of Chicago, etc. Fourth Edition. Revised and Rewritten and very much Enlarged, with Three Hundred and Six Illustrations. Philadelphia: P. Blakiston, Son & Co., No. 1012 Walnut St. 1888.

Dr. Byford's book is too well known to the medical profession to need in these pages an exhaustive review. Indeed, it received this when it first came out, and the point of especial interest to our readers will be to know that a fourth edition is just from the press and in what the changes from the other editions consist. The general scope of the work is given in the title-page, and further detail is unnecessary.

Besides rewriting many sections, three new chapters have been added on the "Anatomy and Physiology of the Female Pelvic Organs"; three chapters on "Displacements of the Uterus"; several on "Affections of the Ovaries and Fallopian Tubes"; and many additions to the chapters on "Examination of the Female Pelvic Organs," "Dysmenorrhœa," "Hypertrophy of the Cervix," "Cancer of the Uterus," "Fibrous Tumors of the Uterus," and elsewhere.

The most noticeable feature of the book is the conscientious way in which the authors have brought the work up to the present methods. Even where they do not approve of the operation of some prominent gynæcologist, they still go ahead and give a clear description of how to do it; in other words, they do not follow the usual routine of saying, "Dr. A. proposes such an operation, but we do not approve of it, and will therefore only mention it." This is, of course, true only with more prominent men whose work deserves more than a passing notice.

We were not a little entertained by the two following sentences (pp. 783–4): "I am among those who believe in antiseptic surgery." "My convictions as to the benefit of the antiseptic processes in ovariotomy are grounded upon my own experience more than general statistics, although I think the latter are sufficiently convincing." This reminds us of the man who apologized for paying his debts (not for the time he had been owing them).

Apostoli's method of the treatment of fibrous tumors of the uterus is fairly well stated, but the mode of action and the details could have been improved if the authors had taken Apostoli's own *résumé* in his little book on chronic metritis; nor do the beneficial effects of his intra-uterine chemical galvano-cauterizations receive that notice—if any at all—under metritis and endometritis that the method warrants.

The book shows thoughtful, conscientious work, and the repeated editions are a sufficient guarantee of the approval with which it meets at the hands of the profession. Our only regret is that time and space forbid taking up many minor points and calling attention to some of the many points of excellence scattered throughout the whole work. The illustrations are, for the most part, very good; but the one representing the patient in Sims' position (p. 57) could be improved, and the examining finger is consistently made much longer in the pictures than it is ever apt to be in the examiner. Here it is that we find the explanation why so many who rigidly follow the instructions of the books fails to attain the results that the *pictures* portray.

INFECTIOUS DISEASES. Part II. By Karl Liebermeister, Professor of Internal Pathology and Therapeutics at Tübinger, Germany. Translated by E. P. Hurd, M.D., President of the Essex North District Medical Society, etc. George S. Davis, Detroit, Mich. 1888.

This is Part II. of the *brochure* under the same title mentioned in our last issue. It contains measles, scarlet fever, small-pox, vaccinia, varicella, rubella and diphtheria. Rubella, it may not be amiss to explain, is used for rötheln, the translator properly preferring not to use as a synonym rubeola, when the latter has been and is used by the best authorities as a synonym of measles. Diphtheria receives the most attention, and we are not surprised. We also have an appendix on the "Therapeutics of Diphtheria by Different Authorities." The book (both numbers) is a concisely written one, and is of especial service from a therapeutical standpoint.

A MANUAL OF MEDICAL JURISPRUDENCE, WITH SPECIAL REFERENCE TO DISEASES AND INJURIES OF THE NERVOUS SYSTEM. By Allan McLane Hamilton, M.D., one of the Consulting Physicians to the Insane Asylums of New York City, etc. With Illustrations. New York: E. B. Treat, 771 Broadway. 1887. Price, $2.75.

This is another number of the series entitled "Medical Classics." It will not take the place of Taylor or Reese, but will be a useful supplement to either, in that it considers especially the medico-legal bearing of diseases and injuries of the nervous system. The subjects considered are: Insanity, insanity in its medico-legal relations, hysteroid conditions and feigned diseases, epilepsy, alcoholism, suicide, cranial injuries and spinal injuries. The book is a valuable one to those who have to deal with lawyers on these subjects.

THE LOMB PRIZE ESSAYS. No. 1. Healthy Homes and Foods for the Working Classes. By Victor C. Vaughan, M.D., Ph.D. No. 2. The Sanitary Condition and Necessities of School Houses and School Life. By D. F. Lincoln, M.D. No. 3. Disinfection and Individual Prophylaxis Against Infectious Diseases. By Geo. M. Sternberg, M.D., U. S. Army. No. 4. The Preventable Causes of Disease, Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them. By George H. Ireland.

These essays are plain, intelligible lessons of the most practical character, relating to the homes we live in, the food we eat, the care of our children in their school life, the means of protection from disease, and the avoidance of the special dangers of our workshops and factories. They are, indeed, a summing up and presentation, in the most practical form, of the best teachings of sanitary science on the topics discussed.

The prices of these essays are as follows: No. 1, 10 cents; Nos. 2 3 and 4, 5 cents each. In book form, well bound in cloth, 50 cents. To be had at the book stores, or by addressing Dr. Irving A. Watson, Secretary American Public Health Association, Concord, N. H.

"Infant Feeding, Especially with Reference to Subjects with Infantile Eczema." By L. Duncan Bulkley, A. M., M.D., New York.

"On Exercise for Prevention and Cure of Deformities." By A. H. P. Leuf, M.D., Philadelphia.

"The Pathology of Hay Fever." By S. S. Bishop, M.D., Chicago.

"Are Dipsomania, Kleptomania, Pyromania, etc., Valid Forms of Mental Disease?" By Orpheus Everts, M.D., Ohio.

"Papillomatous Cystic Tumor of Ovary, with a Hernial Pouch Developed in the Cicatrix of the Abdominal Wound from a Former Ovariotomy." By L. H. Laidley, M.D., St. Louis.

"Annual Report of the Superintendent of the Cincinnati Sanitarium."

"The Trituration of Alkaloids." By Edwin Pynchon, M.D., Chicago,

"Professional Reminiscences." By Benjamin Eddy Cotting, M.D., Boston.

"The Results of Laparotomy for Acute Intestinal Obstruction." By B. Farquhar Curtis, M.D., New York.

"Vesico-Vaginal Fistula." By Reuben A. Vance, M.D., Cleveland, O.

"Report of School Hygiene from State Board of Health of New York."

"Address Delivered at the Commencement of the Normal College of the City of New York." By J. Edward Simmons, LL.D.

"A Case of Gastrotomy for Cancer of the Œsophagus." By. J. Collins Warren, M.D., Boston.

"On the Use of the Vaginal Tampon in the Treatment of Certain Effects Following Pelvic Inflammations." By T. A. Emmet, M.D., New York.

"The Galvano-Cautery Sound and its Application, Especially in Hypertrophy of the Prostate, with Reports of Cases." By Robert Newman, M.D., New York.

"An Aseptic Atmosphere. Club Foot. A Rectal Obturator. Palatoplasty." By David Prince, M.D., Jacksonville, Ill.

"The Pulley Method of Advancing the Rectus, with Indications for its Employment." By A. E. Prince, M.D., Jacksonville, Ill.

"The Extraction of Cataract as Influenced by Micological Development." By A. E. Prince, M.D., Jacksonville, Ill.

"The Pleasures of Life." By Sir John Lubbock, Bart.

"Second and Third Annual Report of New York Cancer Hospital."

"Suicide in its Relation to Insanity." By John J. Reese, M.D., Univ. of Penn.

"What is the Legitimate Scope of Gynæcology?" By Walter Coles, M.D., St. Louis.

"Nature—Studies from the Humbolt Library."

"The Neural and Psycho-Neural Factor in Gynæciac Disease." By C. H. Hughes, M.D., St. Louis.

"Clinical Notes on Pruritus." By L. Duncan Bulkley, A. M., M.D., New York.

"The Intra-Uterine Stem in the Treatment of Flexions." By A. Reeves Jackson, A. M., M.D., Chicago.

PHARMACY AND THERAPEUTICS.

THE NEW ANTIPYRETIC ALKALOIDS (By F. P. Venable, Ph.D., F. C. S., Chapel Hill, N. C.)—The alkaloids form one of the most interesting as well as one of the most puzzling classes of organic compounds. They present very pronouncedly the characteristics of bases, the name being derived from their similarity to the alkaline bases. Beyond this, however, their chemical nature and constitution is but little understood. Only of late have chemists been in a position to study them intelligently, making a slow but encouraging advance in our knowledge of them.

If the name be made to include, as is done by some authors, all nitrogenous organic bases, then many of them are the product of ordinary synthesis, can easily be prepared artificially, and present no great complexity of structure. The distinctive alkaloids, of which morphine, caffeine and quinine are types, are the products of plant life. Their structure is unknown, and many attempts at forming them artificially have met with little success. Manifestly it would be a great triumph of chemical skill if the valuable and costly quinine and cocaine could be prepared from the same coal-tar by means of which so many miracles have already been wrought.

Attempts at the artificial formation of these alkaloids have been successful mainly along two lines of research, viz.: In the formation of pyridin and chinolin derivations. Pyridin and some of the pyridin bases are gotten from the distillation of bones and bituminous shales. Pyridin can be looked upon as very closely allied to benzol; it is a nitrogen-substitution product of it. So far neither pyridin nor its derivatives have found industrial or medicinal use.

Chinolin, on the contrary, though not applied to any useful purpose itself, yields many derivatives useful as coloring materials and a whole series of antipyretica. Chinolin is prepared by distilling quinine or cinchonin with potash. Pyridin bases are formed at the same time. Chinolin is constituted similarly to naphthalin. Its formula is made up by the union of a benzol with a pyridin formula. Hence their near relationship and formation together when chinolin is distilled with potash.

Because chinolin can be formed from quinine, and bears also a certain resemblance to it in its chemical action, it was at one time used as a febrifuge; but its use is now discontinued, since we can form derivatives from it much more like quinine.

Among the coloring matters gotten from chinolin, we have a very handsome blue called cyanin; also a chinolin red, which is especially useful in photography for securing orthochromatic emulsion plates; and lastly a fine chinolin yellow, forming an excellent material for dyeing silk and wool.

From the pyridin bases Ladenburg has succeeded, by a complicated series of reactions, in building up an artificial coniin, similar in every respect from the volatile alkaloid gotten from conium maculatum; but every attempt at synthesizing the valuable alkaloids of the cinchona bark has failed. To these attempts, however, we are indebted for a series of bodies which can be used to substitute quinine in many ways.

The first of these therapeutically valuable chinolin derivatives was kairin, which was used as an antipyretic, but was soon abandoned, as it was found in the clinics somewhat dangerous. Then thallin was discovered by Skraup, owing its name to the characteristic green color which it gives nearly all oxidizing agents. It does not seem to have found much use.

But by far the most useful and interesting of these synthetic alkaloids is the one called antipyrin by its discoverer, Knorr. He seems to have given this name to two substances very near akin to one another, and probably having similar action and therapeutic value, but so far as I know only one of these is now used. Knorr, too, increased the value, both scientific and practical, of his discovery by going back to coal-tar, as it were, for the materials from which to make antipyrin. He formed his chinolin derivative from anilin and aceto-acetic ether. We are thus entirely independent of the natural alkaloids, and do not have to start by distilling the costly products of cinchona bark. The scientific name of this antipyrin is dimethyl-phemyl-oxy-pyrazol, which conveys to the organic chemist much information as to the nature of the substance. To one unversed in that science the name seems only awkward, and the description of the steps in its preparation would be unintelligible.

Since the discovery of this substance by Knorr in 1884, it has met with a widely extended use; within the past few months it has even been recommended as a preventive of sea-sickness. If the claims made for resorcin, one of the pseudo alcohols or phenols, are substantiated, however, we will not have much need to apply antipyrin to such a use, as resorcin is said to be a remedy as well as a preventive.

Anilin itself may well be classed among the organic bases, though it is not properly an alkaloid. It and its salts have generally been regarded as poisonous, but Cahn and Hopp have shown that in small doses the action is antipyretic. They found the product of the action of acetic acid upon anilin, or, as it is called, acetanilid, to be the most useful derivative of anilin for the purpose, and to this the name antifebrin is given. Under this trade name the substance is patented, though quite as unjustly, as it is only acetanilid, and this has been known for a long time. If physicians were to buy it under the latter name they would doubtless escape paying quite a royalty on the patented name. The physiological action is most probably due to a decomposition in the system into anilin and acetic acid.

We will add to this list of artificial organic bases the much-talked-of saccharin, though it is in nowise related to the bases already mentioned. Its chemical name is benzoic-sulphinid, and it was discovered by Jahlberg when working under the direction of Remsen in the Johns Hopkins laboratory. Indirectly, it comes from coal-tar; that is, the substances from which it is prepared by a series of steps can be gotten from the coal-tar of our gas-works. Like the chinolin derivatives, it is an antipyretic. It is also valuable as an antiseptic, but has attracted most attention as a possible substitute for sugar in many cases.

ACETOPHENIDINE.—M. Gueroguiewsky has employed acetophenidine instead of antipyrin. It is a crystalline gray powder, insipid and inodorous, derived from phenol. It is soluble only in twenty parts of alcohol, and is eliminated by the urine, wherein it can be detected by the red coloration with perchloride of iron. In typhoid fever, tuberculosis, erysipelas and pneumonia, in doses of from two and a half to five grains, he found it to act as an antipyretic in from twenty to forty minutes after injection; the pulse and respiration diminishing in frequency, and sweating being induced. It also relieved pain; but doses of eight or ten grains are required to effect this end, as in migraine, cephalalgia and tabetic pains. It never upset the stomach nor modified any of the other functions of the body; in this respect it seems to be superior to antipyrin.—*Lancet*, March 24, 1888.

SOMNIFERIN.—E. Bombelon, in *Pharm. Zeitung*, describes Somniferin as a new "ether of morphine," claiming that it has certain important advantages over morphine itself. No information, however, is given about the composition or the preparation of this "ether," except that it is made without the use of any heat. Whether on that ground it is to be made the subject of a patent we are not informed.

SOLUTIONS of iodoform, if exposed to the light, soon become discolored from liberation of iodine. The discoloration will not take place, according to F. Coreil, if the solutions are kept in bottles of amber glass, which should, therefore, always be used.—*Pharm. Era.*

OXYPHENATE OF MERCURY IN SYPHILIS.—Dr. Chadek has used this preparation hypodermically in an emulsion of two parts of the salt with one hundred parts of gum arabic mucilage. He finds these injections less painful than those of any other salt of mercury. Absorption was very rapid; after a single injection traces of mercury were found in the urine. The author cites ten of his own cases and twelve reported by Dr. Troïtzki, representing the various forms of syphilis, in which the treatment was very successful.—*Bull. gén. de therap.*

Hydrastine, according to Schmidt, forms a crystallizable compound with picric acid, but with other acids uncrystallizable combinations which are generally basic and not of constant composition. By oxidation in acid solutions the alkaloid yields opianic acid and hydrastinine.—*Nat. Drug.*

Acids of Hog's Gall (Severin Jolin)—The gall of the hog contains, besides the long known hyoglycocholic acid, another, until lately unknown acid, which occurs in larger quantity than the first known acid. It is, for the present, called B-hyoglycocholic acid. It is with difficulty obtained pure, as neither it nor its salts are crystallizable. It is distinguished from the A-acid by its behavior with saturated sodium sulphate solution, which precipitates the sodium salt of the A-acid almost completely, and in a flocculent form, whereas the sodium salt of the B-acid is only partly precipitated, and is at first colored oil, which is easily soluble in water. The purified salt is separated from the alcoholic solution by means of ether, as a snowy-white, cheesy precipitate, which soon shrinks to a yellowish mass, whereby much ether is pressed out. This mass is easily soluble in water and alcohol, and the solutions allow themselves to be concentrated to a syrup consistency. The acqueous solution gives a precipitate with barium chloride, which, at first, dissolves again, but with more barium solution, a lumpy barium salt separates, which soon changes to a tough, shiny, silky mass. The salts of this acid have a very bitter taste, which is not, however, as intense as that of the A-acid salts. The composition of the acid could not, as yet, be determined. Analysis proved that the percentage of carbon is much less in the B-acid than in the A-acid, whereas the percentage of nitrogen is about equal in both. By continued treatment with alcohol, the B-acid yields a cholalic acid; in how far this acid corresponds to the one obtained in a similar manner from the A-acid, has not been determined.—*Ztschr. Phys. Chem.*, 87, 11, 417.

DILATED HEART.

℞.	Tinct. opii - - - - -	ʒss.
	Tinct. ignatiæ - - - - -	ʒj.
	Tinct. gentianæ comp. - - - -	℥iij.

M. Sig.—Teaspoonful four times daily.

FLATULENCE.

℞.	Tinct. nucis vomicæ - - - -	ʒj.
	Tinct. capsici - - - - -	ʒiss.
	Spts. vini gallici - - - - -	℥ij.

M. Sig.—Teaspoonful after meals.

VARICOSE ULCERS.

℞.	Acidi salicylici - - - - -	gr. x.
	Ext. belladonnæ - - - - -	gr. iv.
	Ungt. zinci oxidi benz. - - - -	℥ij.

M. Ft. ungt.
Sig.—Apply twice daily.

CHRONIC ALCOHOLISM.

℞.	Tinct. capsici	ʒss.
	Tinct. nucis vomicæ	ʒj.
	Syr. simp.	℥ij.

M. Sig.—Teaspoonful every three hours.

NEURALGIA.

℞.	Morphia sulphatis	gr. j.
	Ext. cimicifugæ	fʒj.
	Tinct. cinchonæ comp.	℥j.

M. Sig.—Teaspoonful in water every two hours.

DROPSY.

℞.	Pulv. digitalis	gr. vj.
	Pulv. scillæ	gr. xij.
	Mass hydrarg.	gr. xij.

M. Ft. pilulæ No. xij.

Sig.—One pill every four hours.
Mix—

CONGELITO.—FROST-BITE.

Take of	Compound tincture of benzoin	3 drachms.
	Chloroform (by weight)	2 "
	Tincture of aconite	1 drachm.

M. Sig.—Locally.

COMBUSTIO—BURN—SCALD.

Take of	Carbolic acid	15 grains.
	Fluid extract of marigold	½ ounce.
	Olive oil	½ pint.

M. Sig.—Locally.

HÆMOPTYSIS.

℞.	Tinct. veratri viridi	*m*xx.
	Magnesii sulphatis	℥j.
	Acidi sulphurici dilut.	ʒj.
	Aquæ	℥vj.

M. Sig.—Tablespoonful every two hours.

SCARLET FEVER.

℞.	Tinct. digitalis	ʒss.
	Spts. ætheris nitrosi	℥ss.
	Aquæ	℥iss.

M. Sig.—Teaspoonful every three hours.

ASTHMA.

℞.	Tinct. lobeliæ	℥ss.
	Tinct. belladonnæ	ʒss.
	Syr. scillæ	℥j.
	Syr. tolu	℥j.

M. Sig.—Teaspoonful every hour until relieved.

COLIC.

℞. Ol. menth. pip. - - - - - ʒss.
Spts. chloroformi - - - - - ʒj.
Spts. frumenti - - - - - ℥j.
M. Sig.—Teaspoonful every half hour.

COMBUSTIO—BURN—SCALD.

Take of Cerate of subacetate of lead - - 1 ounce.
Pure cocaine - - - - 4 grains.
Ointment of oxide of zinc - - 1 ounce.
Mix.

COMBUSTIO—BURN—SCALD.

Take of Pure cocaine - - - - 5 grains.
Ointment of oxide of zinc - - - 1 ounce.
Mix.

RHEUMATISM.

For strong or vigorous subjects, in acute attack:

℞. Acidi salicylic - - - - - gr. xx.
Liq. ammon. acetat. - - - - fʒiss.
Spiritus etheris nitrosi - - - - *m*xx.
Syrupi - - - - - - *m*xv.
M. S.—One dose, well diluted; to be repeated every three hours until eight or twelve doses have been taken.

PILULÆ ANTIRHEUMATICÆ.

℞. Ext. colocynth. comp. - - - - gr. xlv.
Ext. colchici rad. - - - - - gr. xxx.
Ext. hyoscyami - - - -
Hydrarg. chlor. mitis. - - - āā gr. x.
M. et div. in pillulas No. xxx.
S.—One pill t. i. d.

Bardet, in the *Journal de Méd.* Dec. 18th, 1887, recommends as a laxative and gastric tonic combined, the following:

℞. Extract. cascaræ sagradæ fluid. - - fʒv
Tinct. nucis vomicæ. - - - - *m*xxx
Syrup. - - - - - fʒiij, *m*xlv
Aquæ destillat. - - - - fʒxxviij, *m*xlv.
M. Sig.—Dose, a teaspoonful.

For Dyspnœa, Dr. Ellis (*Therapeutic Gazette*, Jan. 16, 1888) recommends quebracho in the following formula:

℞. Syrup. pruni virgin.,
Syrup, tolu,
Extract. quebracho fluid. - - āā f℥j
Acid. hydrocyanic. dilut. - - - gtt. xxiv
Morphiæ sulph. - - - - gr. iss.
M. Sig.—A dessertspoonful, to be repeated *pro re natá.*

For nasal catarrh, boric acid, in the strength of a teaspoonful of the powdered acid to a pint of warm water, is recommended in a recent number of the MEDICAL JOURNAL; three or four teaspoonfuls of the solution to be poured into each nostril two or three times daily. Or it may be prescribed as a spray for the nose, morning and night, as follows:

℞.	Cocaine hydrochlorat.	gr. ij
	Acid boric.	gr. xv
	Listerine	fʒj
M.	Aquæ destillat., q. s. ad	f℥j

For intestinal hæmorrhage the following useful astringent mixture is employed in the London Hospital (*Canada Medical Record*, Dec., 1887), this being the single dose:

℞.	Acid. sulphuric. aromat.	*m*xv
	Spirit. chloroform.	*m*xx
	Tinct. camphoræ comp.	fʒj
M.	Decoct. hæmatoxyli., q. s. ad	f℥j

Or—

℞.	Acid. gallic.	gr x
	Acid. sulphuric. dilut	*m*x
	Tinct. opii	*m*v
M.	Aquæ destillat.	f℥j.

Gastritis, or gastric catarrh, may frequently be relieved, according to the *Pharmaceutical Record*, by giving the patient the following three times a day, before meals:

℞.	Bismuth. subnitrat.	gr. xxx
	Liquor, potassii arsenitis-	*m*v
	Acaciæ pulv.	gr, xxx
M.	Extract. hydrastis canadensis fluid	*m*xv.

MISCELLANEOUS.

THE great Virchow, who is almost unknown to the laity except in connection with the present Emperor of Germany, has lately been spending some days in Cairo, after his return from the Upper Nile, and previously to his departure for Athens and Mycenæ. He showed great interest in visiting the various hospitals here, and especially Kasr el Aini and the adjacent medical school. He fully recognizes all the reform that has been introduced into the native hospitals, which he found airy and free from all danger of hospital taint, but he tried to impress upon the Egyptian professors in the medical school the importance of bringing themselves up to the level of their European brethren.

He gave an address in German, translated phrase by phrase into Arabic, to the new Medical Society which has just been formed under the presidency of Dr. Salem Pacha. He spoke of the past knowledge of the ancient Egyptians, and impressed upon his hearers the importance of hygiene and of introducing true sanitation as met with in England and Germany. His address was listened to most attentively by eighty native doctors. On another evening an Arab dinner was given in his honor by Salem Pacha, to which fifteen European and an equal number of native doctors were invited. Eight nationalites were represented, and it was noted that every medical man talked two languages fluently, while most of them talked more than four. The palm must, however, be given to Dr. Schliemann, who was one of the guests, and who is said to talk every European language except Finnish.

The tourists and winter residents are now leaving for Europe in large numbers, though the climate is still pleasantly cool. There has been a greater influx of American and English visitors than in any previous year, in spite of the mild dengue epidemic which frightened people from coming here until December. The proprietors of two of the hotels have announced their intention of building additional wings before next winter.

Of late years there have been great complaints of odors arising from certain principal streets in Cairo, and energetic steps are now being taken to remove this nuisance. It was found that gas pipes of insufficient size and made of a zinc composition allowed free leakage into and discoloration of the surrounding soil, which smells of sulphuretted hydrogen when exposed to the air. These gas pipes are now being replaced by six-inch iron pipes in all the important streets. Although there is no system of drainage in the town, five most unnecessary sewers have been constructed in times past to carry off rain and surface water. It is known that rain only falls in Cairo in showers during a dozen days in the year, so that the sewers might remain empty if it were not for the reckless use which has been made of them by proprietors of adjacent houses. To save trouble and the expense of constructing well-cemented cesspools, owners connect their house drains with the street sewer, and manage to escape punishment by sheltering themselves behind the capitulations for foreigners. As the sewers were of four feet diameter, unprovided with a proper fall, and intended to empty themselves into the Nile or tributary canals, it was decided early this year to block them throughout. About half the work has been accomplished, but there remain two sewers as yet untouched. Cairo, April 18th.—*Lancet.*

An Improved Life-Preserving Chair.—A chair which, when unfolded, can be used on a vessel or steamer as an ordinary chair, but which, in case of accident, can be folded up and employed as a life preserver, being so constructed that it will support several persons in the water, has been patented by Mr. James A. Ashworth, of Yonkers, N. Y. The back and seat of the chair are formed of a single piece, preferably of water-proof material, in one or more pockets of which a buoyant substance, usually cork, is confined and secured. This water-proof cover is secured around the top cross bar of the frame of the chair back by a double row of stitches, and buoyant material is secured within this covering to the lower end of the back of the chair frame, where rows of stitches are placed each side of the cross bar and around the hinge portion sufficiently to give great strength with flexibility, the covering being carried forward and firmly stitched around the forward cross bar of the seat, and similar buoyant material being secured in one or more pockets in the body of the seat portion of the covering material. To the outer side of one of the back rails, near its center, is pivotally secured one end of a strap or band, which when not in use is passed loosely over the chair back and hooked by a loop or ring over a button on the other back rail. In case of accident the chair is made into a life preserver by folding the cork back forward over the cork seat, the hinge spaces at the rear end of the seat permitting this, and the chair is then firmly secured in its folded position by means of the strap attached to one of its back rails, these rails and the legs affording a convenient grasp or hold for persons in the water. These chairs can also be constructed without the back, in the form of a folding stool.

VACCINATION IN CHINA.—Small-pox is epidemic in Hong Kong, and during the week ending January 28, eighty-eight persons died from this disease. A law has been passed by the Governor and Council making the practice of infant vaccination compulsory in the colony, the Chinese member of the Council stating that his countrymen were strongly in favor of it. A local newspaper sent us by a correspondent enables us to learn something of Chinese thought upon the subject, the article referred to being based upon a pamphlet written by a Chinaman named Chang. The object of vaccination in China, it seems, is to purify the child of the fœtal virus which every child possesses, and which is generated by the passions which gave him birth, and this virus is the attractive cause of small-pox and other ailments. The Chinese anti-vaccinationist evidently accepts this theory, but comments on the absurdity of attempting to let this virus out in two or three pustules. Mr. Chang, however, has a ready reply: The fœtal virus congregates about the Gate of Life and the Three Passages. He does not say where these are, but on either arm, between the shoulder and the elbow, are two depressions, the "eddy of purity and cold," and the "lesser estuary," which two communicate by means of veins directly with the Gate of life. By introducing vaccine, therefore, in the upper part of the arm, it is conveyed by the flowing of the blood along the vein to its goal. For the reason that "blood must be warm before it can flow," (*vide* Chinese text-books) "cold" food must not be given the patient, or rather, to use our popular expression, food which is credited with being "cooling."

ON THE USE OF STRYCHNINE AS A HYPNOTIC.—Dr. T. Lauder Brunton, in the *Practitioner*, January, 1888, says: Quiet sleep usually comes readily and quickly to any healthy person who is tired, but not over-tired, with bodily or mental work. But as too many know, there is a condition of excessive fatigue, either bodily or mental, and more especially of that fatigue which follows intense mental strain or worry, which prevents the unhappy sufferer from obtaining the rest and refreshment by sleep of which he stands so greatly in need. The treatment of such cases is very difficult. The use of opium or other narcotics is objectionable, not only because it may tend to induce that dreadful condition, the opium habit, but because it frequently happens that the sufferer from sleeplessness is obliged to have all his faculties clear and all his wits about him in order to get through his daily work. The administration of opiates at night tends in many people to produce a certain amount of dullness through the day, which would render the use of these drugs inadmissible, even if there were no other objection to their use.

Chloral is not so objectionable on this account, as it may induce sleep without in the least obscuring the mental faculties next day, but the use of chloral also is objectionable both because of the tendency to the formation of a chloral habit, and because its long continued use may have a weakening action on the heart and also a deleterious action on the brain. I have seen at least one case in which the continued use of chloral appeared to induce mania, which began to improve as soon as the patient was removed to an asylum and cut off from the use of the drug.

Bromide of potassium is probably the least objectionable of all, but in many cases of overwork it seems to lose entirely, or almost entirely, its hypnotic action.

In treating some cases of persons engaged in literary work who were suffering from sleeplessness and yet were obliged to have their brains perfectly clear during the day, it occurred to me that if I could convert the condition of overtiredness into a condition of simple tiredness, the patient would naturally fall sound asleep without the use of any hypnotic. One can sometimes do this to a certain extent by giving some warm beef-tea or a teaspoonful of Valentine's meat juice in water either hot or cold, or by giving a little alcoholic stimulant, such as whisky and water or brandy and water. It is probable that these substances have a double action, tending to dilate the vessels of the stomach and withdrawing blood from the head, as well as tending to exert what we may vaguely term a stimulant action on the nervous tissues themselves, without understanding what the exact nature of this stimulant action is. It occurred to me that as strychnine is one of the most powerful stimulants, if not the most powerful nervous stimulant that we possess, a small dose of it might have the effect of bringing the depressed nervous system up from the condition of over-fatigue to that of simple fatigue, and thus inducing sleep. I accordingly tried it, and was much pleased with the result. It acted exactly in the manner that I expected, and induced comfortable healthy sleep without any disagreeable effects next day. The way in which I have used it has generally been either in the form of the tincture of nux vomica in doses of 5 to 10 minims or in the form of Schieffelin's granules, containing $\frac{1}{60}$ of a grain of sulphate of strychnine in each. One, two, or more of these granules were given at bedtime, and the dose was repeated if the patient happened to awake within one or two hours afterwards.

I think it is very doubtful indeed whether strychnine would answer in other cases of sleeplessness than those arising from overwork or worry, and more especially from overwork. I have tried it, however, in a case of sleeplessness occurring in anæmia, but as the patient at her next visit complained that the medicine made her sleep rather too heavily, I am not quite sure how far mere suggestion may have played a part in effecting the result, nor have I been able as yet completely to eliminate this factor in other cases. The results which strychnine has yielded in my hands being so good, and the condition for which I have used it being so distressing, I have thought it worth while to mention its use as a means of affording sleep in order that others may try it as well as myself, and may, I hope, obtain from it equally good results; although it only too frequently happens that a drug seems to prove very much more effective in the hands of the man who first employs it than of those who try it afterwards.

GLYCERINE, CANNON-BALL AND DUMB-BELL IN CONSTIPATION. —Glycerine appears to have been first used as an injection in constipation by Dr. Oidtmann, a Dutch physician, who advertised the drug as secret preparation: Dr. Anacker used some of it, and found by analysis that it consisted principally of glycerine. This led him to try pure glycerine in rectal injections of one-half to one teaspoonful, given by means of an ordinary glass syringe. Dr Julius Althaus (*Brit. Med. Jour.*, December 24), says: "After reading Anacker's paper, I lost no time in giving this proceeding a trial. A number of patients, including some medical practitioners of great experience in the treatment of this troublesome disorder, having spoken to me in the highest terms of the value of this new plan. An evacuation generally takes place, either immediately or within a few minutes after the injection." The explanation of the effect given by Anacker, and which is no doubt the true one, is this: Glycerine, when brought into contact with the mucous membrane of the rectum, withdraws water from it, thus causing hyperæmia and irritation of the sentient nerves of the rectum, which in its turn leads reflexly to powerful peristaltic contraction, ending in defæcation. The larger the accumulation of fæces, the greater is the effect. There is no discomfort or pain, but the action takes place, *cito, tute et jucunde.* Sometimes, however a little throbbing is felt in the rectum for a few minutes afterward. The *Cannon-ball* is recommended by Dr. Hermann Sahli, of Berne, not internally—it is not a shot-gun prescription—but as a species of massage. The dose is a ball weighing from three to five pounds, carefully rolled by the patient himself over the uncovered abdomen the first thing in the morning. Directions are also given to raise the ball from time to time, and let it fall with some force on the abdomen; the patient is to lie on his back during the treatment, as the ball is rolled on the patient, not the patient on the ball. The *instrument* may either be warmed before using, or it may be covered with felt. The manipulation should be thorough over all parts of the abdomen. The effect is almost immediate in some cases, and in a majority the bowels are opened in about two hours. Dr. Sahli thinks that there is a future for this method, and that smaller forms of ammunition (pills), taken internally, will be generally replaced. The *Dumb-bell*, according to a correspondent of the *Brit. Med. Jour.*, was recommended some fourteen years ago by a teacher of the noble art of self-defence. The patient was to lie on his back and roll a light dumb-bell to and fro and down the bare abdomen the first thing in the morning after having taken a sip of water. It usually had a better effect than any internal remedy. This treatment, the writer says, was for a long time a *professional* secret.—*Medical Abstract.*

TRICHINÆ is reported in Toledo. Five cases have occurred in the family of William Man, living in East Toledo. Dr. G. A. Collamore, the health officer, confiscated the meat. The sufferers are Germans—William Man, wife, brother-in-law and two children aged four and six years. The pork had been pickled in brine made of rock salt, and was claimed to have been boiled thoroughly. The members of the family began to suffer from lameness and stiffness of the muscles, and were treated for some time for typhoid fever. It became almost impossible for them to move even the eye-lids, while slight pressure on any part of the body would cause the patients to scream with pain. Their faces were swollen and their bodies bloated. Trichinosis was suspected, and sections examined under the microscope revealed millions of parasites. The patients are in a precarious condition, and are exciting much interest both in and out of the medical profession.

RESTORED TO SIGHT AFTER SIXTY YEARS OF BLINDNESS.—In the *Lancet*, January 7, 1888, Dr. David McKeown reports the case of a fiddler, sixty-three years old, who had been blind, when first seen by Dr. McKeown in August, 1883, for sixty years. When one and a half years old, he lost the sight of both eyes from an attack of small-pox. The right eye lacked perception of light, but the perception of the left was good. There was a dense central opacity extending into the upper half of the left cornea, and the iris was adherent all around to the margin of the opacity. An iridectomy was performed, opposite the transparent cornea above, which was the only place available for such a purpose. A year after the operation, his condition was about as follows: the cornea opposite the artificial pupil was a little milky; the use of the eye was attended with some difficulty, on account of the position of the artificial pupil, which caused strain upon the inferior rectus; the presence or absence of the lens could not be determined;

the result of a trial with glasses was practically *nil;* the vision which he had gained by the operation enabled him, when in the streets, to dispense with the stick, which, before the operation, was a necessity; he could count objects of a line and a half in diameter when about a line distant from each other; he recognized comparatively small differences in size. His color perception was good, and his color education progressed very rapidly.

The author regards this case as unique, considering the early age at which vision was lost, the prolonged period of blindness, and the gratifying result of the operation.

A British Opinion of Trained Nurses.—When trained nursing became a recognized calling, it was ushered in with the happiest omens and perhaps a little too much flourishing of trumpets. Miss Florence Nightingale had endeared herself to all civilized people by her self-sacrificing heroism, and her example attracted many who were quite willing to accept the deserved eulogies bestowed on the pioneers of the calling, who, be it remembered, worked most unostentatiously. To-day everything is changed. Nursing becomes a "profession," and nursing institutions seek a royal charter. Lady nurses write queries to medical journals, and express doubts as to the proper treatment of cases. From being the bidable, cheerful worker, the modern nurse has become aggressive and captious. We have known a lady nurse to waken, by shaking, a patient from a profound sleep, where sleep was essential for recovery, because she did not approve of the dose of the hypnotic given. The time has come to speak plainly, and the profession should recognize the truth that there is an unwise silence as well as an unwise speech. Trained nurses know just enough to make them dangerous when they attempt to practice in our absence, and this modicum of knowledge is quite sufficient to render them talkative, self-assertive, insubordinate.—*Medical Press*, February 29, 1888.

Dr. J. Dejerine, of Paris, records an interesting case of poisoning by subcutaneous injections of cocaine. The patient was a young dentist, twenty-six years of age. M. Dejerine found him in a semicomatose state, with generalized muscular contraction of the arms and legs.

The arms were slightly bent, the legs were stretched out; patella reflex action was not discernible owing to contraction. The pulse was quick but regular (120), the breathing hurried. The eyes were closed, the pupils dilated and insensible to light. There was complete unconsciousness. The following lesions were detected on the skin: There was a pustular crusty eruption, consisting of pustules the size of a pea, covered with a blackish-gray dried scab on the anterior external surface of the two arms, and on the anterior part of the legs and thighs. This eruption resembled the scales of syphilitic rupia. The patient had suffered from blenorrhagia.

On returning to consciousness the patient rose and walked about with closed eyes, on account of the painful sensation caused by light on the eyeballs. He gave the following particulars concerning the cause of the attack: Six weeks previously he began to administer subcutaneous injections of cocaine to himself. He began with doses of one centigr. He increased the quantity gradually until he employed fifty centigrs. The injections produced agreeable sensations and sexual desires, followed by ejaculation. The evening on which the attack above described took place he had injected one gramme of cocaine at ten o'clock. He employed three syringes and a warm solution. At the third injection he fell down in an unconscious condition.

On the following day Dr. Dejerine again examined the eruption, which was limited to the area affected by the injections with cocaine, which the patient introduced *into*, and not *under*, the skin. At the spot where the injections were made white, cadaverous spots were apparent; these were insensible to the touch. The patient stated that when M. Dejerine pinched him in different places during the state of coma he was aware of the fact, but that he felt no pain whatever. He was therefore sensible to the contact of an outside object, but insensible to pain. The patient recovered. He has ceased to employ cocaine. M. Dejerine considers that if the patient had not gradually accustomed himself to progressive doses of cocaine, the dose of one gramme would have proved fatal.

A TRIBUTE TO A MEDICAL TEACHER.—The students and alumni of the University of Virginia lately listened to an address delivered by Dr. Paul B. Barringer, on the history of the Medical Department of that University, in which the following tribute was paid to Dr. Robley Dunglison, who, after leaving the University of Virginia, occupied the chair of Institutes of Medicine at Jefferson Medical college:—

After six years spent in the erection of buildings and perfection of plans, the University was thrown open to students on March 7, 1825, and went to work with but forty students. This number, however, soon grew, and by the end of the term was quadrupled. The School of Anatomy and Medicine was the modest title applied to the single school, which has since developed into the Medical Department of the University of Virginia. This chair was then confided wholly and solely to the care of one Professor, Dr Robley Dunglison, of England.

Dr. Dunglison was a young man not more than twenty-six years of age, but in the land of his nativity he had already gained a reputatation, and as a writer in the *London Medical Intelligencer*, of which he was editor, he was already beginning to give promise of those high literary attainments which ultimately made him the first medical author of his day. Even at this time he was no ordinary man—being a man of broad views, wide general education, and, above all, wonderful energy and versatility. One would have thought that to have fulfilled all the duties pertaining to his chair, in addition to his official duties as chairman of the Faculty, would have engaged the entire time of any one man. But while here engaged in his multifarious duties, we see him, in conjunction with Dr. George Long, of the University, editing a study of Roman and Greek geography. This evidence of wide classical training was subsequently signally shown in the production of his "Medical Dictionary," which is even at this day the best work of its kind in the language.

Such culture could not fail to attract, and in 1827, within two years after the opening of the university, in compliance with a generally expressed demand, what had previously been but a single school was enlarged into a department; and thus we find, in October, 1827, just sixty years ago, that the life history and sphere of usefulness of this illustrious School of Medicine began with Dr. Dunglison as chief. And here, gentlemen, let me say that to a school, whose pride has ever been that its diploma represents a fixed standard of general scholarship, in addition to medical knowledge, it should be a matter of just pride and infinite satisfaction that its bark was first launched and guided on its course to success by the man whose name represents above all others that which is broad and classical in American medicine.—*College and Clinical Record.*

FUGITIVE IODISM: ŒDEMA OF EYELIDS.—W. J. H., æt. 30 years, on May 7th complained of frontal neuralgic headache, which had varied in intensity during the preceding ten days. He could not bring to mind having had headache before, but had been, during several years, inconvenienced by an irritable catarrhal condition of his fauces and naso-pharynx. Having applied a chloroform preparation of aconite root with a camel hair pencil horizontally to the forehead from side to side, a full inch above the eyebrows, I prescribed as follows:—℞ Liq. ferri iodidi, ʒ ij; aq., ℥ vj; ℥ j ter. Soon after the second dose the patient felt a severe cold had come upon him quite suddenly—sneezing, a very copious and steady flow of watery fluid from the left nostril, sufficient to saturate two handkerchiefs. This ceased in one hour as abruptly as it had occurred. Coincident with its cessation a puffiness of the eyelids on the corresponding side ensued; this increased, and on retiring the patient's lids were completely closed. He slept well, and the morning following his eye presented the appearance of having been stung by an insect, as described by Dr. Tom Robinson. The left eyelids, both upper and lower, were equally tumid with a semi-transparent rosy fulness, which the patient said was less than on retiring the night before. There was neither subconjunctival œdema nor any discharge from between the lids. The conjunctiva presented a diffuse pinkness. Over both cheeks, but nowhere else on the body, was an urticarial erythema, fainter on the left than on the right cheek. He felt well; his headache had gone. On May 10th, the phenomena had completely vanished.

Remarks—Here is seen a person with a decided catarrhal dyscrasia suddenly attacked with fugitive œdema of the eyelids sequent upon a free catarrhal outpour from the nasal mucous membrane. So far, the symptoms being limited strictly to the one side lends weight to the idea that an extension of the same catarrhal process into the neighboring loose connective tissue, though this was not related by immediate continuity, had occurred. Another view may be taken; that the transient œdema of the lids was associated with an impediment in the course of the efferent lymphatic circulation occasioned by the turgidity of the nasal mucous membrane.—*British Medical Journal.*

HOW TO TREAT CRAMPS IN THE LEG.—Many persons of both sexes are greatly troubled with cramps in one or both their legs. It comes on suddenly and is very severe. Most people jump out of bed (it nearly always comes on either just after going to bed or while undressing) and ask some one to rub the leg. I have known it to last for hours, till, in despair, they would send for the family physician; and even then it would be hours before the spasms would let up.

There is nothing easier than to make the spasm let go its hold, and it can be accomplished without sending for a doctor, who may be tired and in need of a good night's rest. When I have a patient who is subject to cramp I always advise him to provide himself with a good strong cord. A long garter will do if nothing else is handy. When the cramp comes on take the cord, wind it around the leg over the place that is cramped, and take an end in each hand and give it a sharp pull—one that will hurt a little. Instantly the cramp will let up, and the sufferer can go to bed assured it will not come on again that night. For the permanent cure, give about six or eight cells of galvanic battery, with the negative pole applied over the spot that cramps, and the positive pole over the thigh. Give it for ten minutes, and repeat every week for a month.

I have saved myself many a good night's rest simply by posting my patients subject to spasm of the legs how to use the cord as above. I have never known it to fail, and I have tried it after they had worked half the night and the patient was in the most intense agony. Even in such cases, at the first jerk of the cord all pain left.—*R. W. St. Clair, M.D., in Medical Age.*

WHAT A DOCTOR SHOULD CARRY WITH HIM.—The *Massachusetts Medical Journal* has received the following humorous letter from an esteemed subscriber in a New England State:

"I am a country practitioner, and thought I would ask your advice in regard to what you think necessary for a country doctor to carry with him when he goes to see a patient.

"When I first commenced practice I carried but a small pair of pill-bags filled with what I then thought to be the essentials of medicine, having, of course, my lancet in my waistcoat pocket. I have been reading your valuable journal with interest, and as fast as I have become convinced of the necessity of using any article of medicine or instrument in my practice, have added it or them to my *armamentarium.* I now carry a medicine chest with a full assortment of medicine. I, of course, carry a stethoscope, as the unassisted ear is not considered quite modest in the examination of pregnant women.

"I am convinced of the propriety of having my obstetric forceps always within reach, and so carry them. Being frequently applied to to extract teeth, I must carry my tooth-extracting instruments with me. As in some cases it is desirable to have the bowels moved as soon as practicable, and as syringes are rarely found in private families in the West, I carry two, one for adults and a smaller one for children.

"Being convinced from some articles published in your paper of the benefit of galvanism in certain cases, I carry a magnetic machine with me. I seldom now use general blood-letting, but carry a patent cupping apparatus, that it may be within reach when needed.

"My pocket-case of surgical instruments I carry in my medical chest, also my speculum, an assortment of pessaries, and a vaginal syringe.

"I wish you would send me by return mail three thermometers, one for the anus, one for the arm-pit and one for the vagina; and if there is anything else you think necessary, should be obliged if you would indicate it. I formerly rode in a one-horse buggy, but have lately found it necessary to put two horses on, and have it in contemplation to trade my buggy for one with a larger bed.

"RUSTICUS, M.D."

[We sympathize with our country friend, but he must keep up with the "advance of science." He can't expect to do business nowadays with a lancet in one vest-pocket and a paper of calomel and jalap in the other. We see he still absolutely needs a dozen or two indispensable articles, including a gynæcological chair and an operating table; but as our terms are strictly cash in advance, we want to hear from him again.—ED.]

AN ANTISEPTIC.—Some very interesting experiments of great practical importance have recently been made by E. Laplace (*Deutsche Medicinische Wochenschrift*, 1887, No. 40, p. 866–7) in the Hygienic Institute of Berlin on the antiseptic action of corrosive sublimate when used in acid solution. It has long been known that the efficiency of bichloride of mercury is much reduced when it is brought in contact with albuminous substances, owing to the formation of insoluble compounds; thus, when applied to animal tissues, the mercury becomes mordanted, as it were, on the surfaces with which it first comes in contact, the sphere of its activity being thus greatly diminished. Laplace finds that five cubic centimetres of blood serum is sufficient to precipitate the mercury from five cubic centimetres of the bichloride solution (1–1000). The formation of this precipitate of albuminate of mercury can be prevented by adding dilute hydrochloric acid (5–1000) to the bichloride solution (1–1000), whereby the antiseptic power of the latter is greatly increased. Similar results were obtained by the addition of tartaric acid. The solution recommended for use consists of 1 part sublimate, 5 parts tartaric acid, and

1,000 parts of distilled water. The bandages, gauze, etc., on the other hand, are soaked for two hours in a stronger solution, namely, sublimate, 5 parts; tartaric acid, 20 parts; distilled water, 1,000 parts, after which they are wrung out and dried.—*British Medical Journal*, Jan. 21, 1888.

"HOMŒOPATHIC LEAGUE TRACTS."—Homœopathy has throughout had marks of quackery. One of the most unmistakable is its appeal from the profession to the unlearned. Discarded and discouraged in every medical society and in all the universities of Europe, it has sunk so low as to distribute tracts calculated to impress the vulgar, in which the most ridiculous arguments are used and the most unworthy motives are ascribed to the medical profession. We have not noticed these "Hœmopathic League Tracts" in detail, and we have no intention of doing so. One is now before us, and we may take it as a sample. It is entitled "Allopathic Misconceptions of Homœopathy," and descants on the ignorance of medical men in regard to the "great" subject of homœopathy. The most honored men in the profession, and those whose names stand out conspicuously as having advanced medical science, are shown to be most hopelessly ignorant of homœopathic science, or, worse still, of that moral principle which would lead them to do it justice and to fall down and worship Hahnemann! The rank and file of the profession are represented as abettors of the immoral use of narcotics, and of any theory or mode of treatment that promises to give the doctor more to do. They adopt with uncritical haste any innovations which do not diminish their profits. The germ theory and the doctrine of the prime importance of subduing pain are adduced as illustrations of this immoral credulity of medical men. This is a pretty cool libel of the profession of Jenner and Simpson, of Parkes and Simon and Lister. Sir Joseph, who has the slight distinction of having well-nigh abolished erysipelas and gangrene—in hospitals, at least—and a few other such plagues, "is" (so the ignorant readers for whom the "Homœopathic League Tracts" are prepared are told) "now seldom spoken of." Times must be very bad with homœopathy when its advocates have to resort to such weapons as this and to appeal to an audience that can receive such statements. The author of this tract, indeed, admits as much. He talks of the flowing tide being with the homœopaths, but he says, "*It seems to flow but slowly in Britain and Europe.*" So we think. And our homœopathic friends will find that the great public of the end of the nineteenth century is not going to accept a theory of medicine which involves the detraction of those benefactors who have done so much to relieve the suffering of their fellows. It would be as reasonable to accept a theory of chemistry that left out the work of Lavoisier and Davy, or a theory of biology that discarded Darwin and Huxley. The instinct of the public—not its knowledge—keeps it from such a fatal blunder, in spite of the "Tracts" and "Leagues." This seems the last card of homœopathy, and it is a veritable confession of failure.

No wonder that "the tide flows slowly" in favor of homœopathy when it has to live by traducing medicine and the leaders of medicine. But there is another reason—the exceeding attenuation of its achievements. Here is its disparity in the conflict with true medical science. After nearly a hundred years of boasting, it cannot be credited with one palpable effect. It is easy to decry the germ theory and the remedies which relieve pain. But what would homœopathy give for such fruitful and palpable additions to scientific discovery, and to the abatement of human misery and disease, as are represented in chloroform and its congeners, or in the antiseptic and germicidal theories of disease, or in the great results of the regular treatment of hyperpyrexia. The achievements of homœopathy are, like its doses, impalpable.—*Lancet.*

AGARICINE IN THE SWEATING OF PHTHISIS.—Piermy, the author, has experimented recently in Dr. Pribrams' clinic with this new alkaloid, prepared from the alcoholic extract of the white agaric. He gives it in doses of from 1-60 to 2-70 of a grain, without any effect sometimes, but generally diminishes a profuse sweating when he gives it in 3-70 of a grain or more. He had the following results:

1. Agaricine nearly always decreases the sweating in consumptives.
2. It has no modifying effect on the respiration.
3. In cases of profuse sweating, when suppressed by this alkaloid, the pulmonary and skin functions were not modified.
4. The result seems to depend on lesssening the absorption of water, as the thirst and urine were diminished under its use.
5. A few pills of ⅙ of a grain each of agaricine would arrest a profuse sweating in four or five hours.
6. The use of agaricine gives no inconvenience whatever afterwards.
7. The feebleness of the consumptive is diminished, but the other symptoms are not modified.—*Farmacest a Italiano et Jour. de Med. et Farmacol.*

STERILIZED FOOD FOR INFANTS.—It is a curious fact that while all older people are chiefly fed on sterilized (cooked) food, infants are fed on food peculiarly adapted, by its composition and fluid state, to offer a home to bacteria.

In treating some cases of summer diarrhœa, directions were given that all milk used for infants should at once, on receipt, be steamed. After this it was kept covered, and on ice, if possible. The result was that the little patients began to pick up and were soon well.

The ordinary milk-supply of a large city is a day or more old, slightly acid, and contains many growing bacteria.

Fresh milk sterilized, or collected sterile and protected from organisms, undergoes no changes, even after the lapse of indefinite periods, except the separation of the fats. If bacteria are present, a great variety of changes may occur. As milk affords such a fine medium for growth, all efforts to rid it of bacteria must be governed by the use of poisons—germicides—or some physical condition inimical to their life.

The first method is not admissible in foods, while the other offers little chance of success except by heat. Cold retards their growth, but does not kill. Boiling is undesirable, but steaming produces but slight changes in the milk, and is efficient.—*American Journal Medical Sciences.*

THE AGE OF THE STARS.—A very interesting address delivered at the annual public session of the five academies of France, October 25, 1887, by M. Jannsen, the director of the observatory at Meudon, France, is published in the December numbers of *Ciel et Terre* and the January and February numbers of *L'Astronomie.* The principal thought is that the idea of evolution may be applied to the stars as well as to terrestrial things. The stars are not fixed and eternal, but are subject to change and time. They have a beginning, a period of activity, a decline, and an end. By recent advances in the study of celestial physics, especially with the spectroscope, we are enabled to know something of the actual condition and relative age of some of the stars. We may assume that the age of stars, other things being equal, will depend upon their temperature, and that their temperatures are higher in proportion as their spectra are richer in violet rays. The majority of the stars which are visible to the naked eye are white or bluish, and therefore at a high temperature; but many are yellow or orange, like our sun, showing that they have passed their youth, while others are from dark orange to dark red, showing that their sidereal evolution is far advanced.—*Sidereal Messenger.*

MEDICAL NEWS AND NOTES.

MYXŒDEMA.—The usual scanty attendance of members at a "last night" meeting, when a massacre of the innocents is to be expected, did not obtain at the closing meeting of the session of the Clinical Society on Friday last, when a full house, which included Dr. Fordyce Barker, of New York, assembled to hear the conclusions arrived at by the Committee of the Society, which for years has been considering the whole question of myxœdema. It is nearly four years since this Committee was appointed, during the presidency of Sir Andrew Clark, and the labor has been enormous. The whole question has been investigated in every way that could tend to throw light on this complex subject, and the result has been the volume shortly to be published, which will be found a mine of information concerning myxœdema and its immediate congeners. The name of the Chairman of the Committee, Dr. Ord, will henceforth be indissolubly associated with the literature of myxœdema in conjunction with that of Sir William Gull, who, some fifteen years ago, first accurately described the clinical features of the disease, though the name which he applied to it has since been altered. Altogether, the Society, and British medicine generally, are to be congratulated on the completion of this most important work.

By it the relationship subsisting between myxœdema and disease, or absence of the thyroid gland, seems to be placed beyond all doubt, though the ultimate cause of the loss of function of the thyroid gland has not yet been determined.—*British Medical Journal.*

EXCESSIVE THIRST A SYMPTOM OF MALIGNANT DISEASE.—In a case of malignant disease which came under my care lately, certain symptoms were present which seemed rather difficult of explanation, and may, I think, be considered unusual. The case was briefly as follows: About three months before her death I was called to see a woman, aged about fifty, who had been suffering from dyspeptic symptoms for about five months previously. At this time she complained of pain, nausea, vomiting and other symptoms of gastric derangement. A tumor was to be felt in the epigastric and right hypochondriac regions, evidently involving the liver and intestines. The case ran a rapid course. About three weeks before death, the most extraordinary thirst came on which nothing could appease. It used to come on in paroxysms, and although her friends tried to keep too much fluid from her, she would clutch wildly at any vessel, and pray for more. Her husband used to say to me, " Her thirst is terrible, surely there must be some great heat in her." I may say that what she drank used almost all to come back again. Constipation, which was troublesome all along, became absolute for the last ten days, evidently from pressure of the tumor on the gut. There was no increase in urinary secretion or febrile symptoms.—*British MedicalJournal.*

SOME time ago, M. Huchard called attention at the meeting of the Société Thérapeutique to the contra-indications of antipyrin. He said the drug should be used sparingly in diseases such as typhoid fever, in which the kidneys served as emunctories, as it diminished the secretion of urine. On the same principle he gave eight grammes a day to a woman suffering from meningomyelitis, who passed from twenty-four to twenty-eight litres of urine in twenty-four hours. This quantity was reduced to five litres under the influence of antipyrin. M. Huchard therefore suggested the use of antipyrin in analogous cases, such as diabetes, for instance. M. Dujardin-Beaumetz expressed a similar opinion. Antipyrin should no more be given than opium or salicylate of soda when the kidneys were diseased. These substances being eliminated by these organs, might possibly be absorbed into the organism with toxic effects. M. Dujardin-Beaumetz had tried antipyrin in two cases of polyuria, the amount of urine being diminished in both cases. M. Huchard added that arterio-sclerosis should not be treated by antipyrin, even when the kidneys were not affected.

ACCORDING to the *Bund* of May 10th, at the village of Castagnola, near Lugano, the wife of the local Communal President, aged 38, has been recently delivered, at full term, of six living children, every one of which, however, died in the course of a few hours after their birth.

This startling event has induced a correspondent of the *Berner Volkszeitung* of May 19th, p. 2, to publish the following statement, which, he says can be very easily verified: Many years ago, a woman, residing at the village of Fullenbach, near Olten, was safely delivered of seven living, though tiny, infants. Since the nearest church at the time was at Olten, the seven children had to be carried to that town to be baptized. It happened that one of the rustic godfathers somehow lost one of his future godchildren on the way, the accident being discovered only after the napkins and wrappings had been carefully examined at the church. The happy father of the seven, plunged now into the very depths of unhappiness, registered a solemn vow to the Holy Mother that if "the lost child was found alive he would erect on the self-same spot a chapel dedicated to Her Holy name." The infant was soon found safe and sound, lying at the left bank of the river Aar, about 500 steps from the Aarburg Bridge, close to Ruttingen, where there now stands the chapel as erected by the father, true to his solemn promise. An official document, relating in detail to all these obstetrical and other events, is said to be exhibited within the chapel for the public edification.

A PLAN TO OBTAIN VACCINE LYMPH WITHOUT RUPTURING THE PUSTULES.—Dr. Grigg, of Queen Charlotte's Lying-in Hospital, suggests a method of obtaining vaccine lymph without rupturing the vesicles, which must commend itself to the practitioner. The method has the further advantage of increasing the supply obtainable. He allows a drop of pure glycerine to fall upon the ripe vesicle, and this has the effect of withdrawing the lymph from the interior without any solution of continuity of the investing membrane. Judging from the results obtained by Dr. Grigg, in nearly three thousand cases, in only one of which did he fail to secure a satisfactory effect, the lymph thus obtained is fully as active as ordinary lymph. Dr. Grigg remarks incidentally that lymph obtained from infants less than fifteen days of age is always scanty in amount and unreliable. He also records the fact that in cases where only one of the punctures proves successful in the first instance, a more satisfactory result may be obtained by revaccination from the solitary vesical, which remains stationary until the second crop attains the period of maturity, and then the whole number go through the retrograde changes together.

A NEW instrument has been recently invented for tapping ovarian cysts. It is a modification of Sir Spencer Wells' abdominal trocar, and the advantages claimed for it are:

(1.) That through the almost automatic action of the springs, the cyst wall is firmly held as soon as the trocar is introduced, and no time is lost in drawing the cyst walls up on the sides of the tube with a pair of forceps (which is necessary in order to fasten them when using the old form of trocar).

By this means the danger of the cyst slipping back into the abdominal cavity and discharging its contents into the peritoneum is also avoided.

(2.) That through the intervention of the shoulder, fluid is prevented from escaping between the cyst wall and the canula, and flowing back into the opening in the abdomen.

(3.) That it affords a better and more easily obtainable hold upon the cyst than can be secured by cyst forceps.

IN his advice to readers, Robert Louis Stevenson says: "Something that seems quite new, or that seems insolently false or very dangerous, is the test of a reader. If he tries to see what it means, what truth excuses it, he has the gift, and let him read. If he is merely hurt or offended, or exclaims upon his author's folly, he had better take to the daily papers; he will never be a reader."

THE Governor has signed the bill substituting death by electricity for hanging in the case of all criminals condemned to death, which was passed by the recent Legislature; and New York will thus have the honor of being the first State to abolish hanging in cases where the death penalty is ordered by law.

AT a meeting of the Academy of Medicine, held June 7th, Dr. T. Gaillard Thomas read a memorial paper on the late Dr. Cornelius R. Agnew, and the Building Fund Committee presented its report. This was read by Dr. Alfred L. Loomis, who stated that in addition to the $100,000 received from Mrs. Woerishoffer, and the estates of the late Drs. Hosack and Beadle, $11,995 had been received in response to the circulars sent out by the committee asking for subscriptions to the fund.

THE coroner's jury which was for more than two weeks engaged in investigating the killing of a lineman of the Brush Electric Illuminating Company, has rendered a verdict, founded on the testimony of many expert witnesses, which hold the company responsible for the man's death. It finds that his death was caused by an electric shock received from an improperly insulated electric light wire while he was in the discharge of his duty as a lineman, and strongly condemns the parsimonious spirit of the electric light companies in maintaining a constant menace to life and property by not keeping their wires in repair with proper methods of insulation. The jury also recommends that the coroner shall immediately call the attention of the district attorney to the illegal maintenance of wires above ground in the City of New York.

THE HUMAN BREATH A POISON.—The Paris correspondent of the *Medical Press and Circutar* reports that, at the last meeting of the Académie des Sciences, Dr. Brown-Séquard referred to some experiments he had conducted with a view to determine what, if any, were the toxic effects of the human breath. In condensing the watery vapor coming from the human lungs, he obtained a poisonous liquid capable of producing almost immediate death. This poison is an alkaloid (organic), and not a microbe or series of microbes, as might have been imagined. He injected this liquid under the skin of a rabbit, and the effect was speedily mortal. The animal died without convulsions; the heart and large vessels were engorged with reddish blood, contrary to what is observed after ordinary death, when the quality of blood is moderate and of dark color. In conclusion, this eminent physiologist said that it was fully proved that respired air contained a volatile toxic principle far more dangerous than the carbonic acid, which was also one of its constituents, and that the human breath, as well as that of animals, contained a highly poisonous agent.—*Boston Medical and Surgical Journal.*

DR. CHARLES MCBURNEY has been appointed visiting surgeon to Roosevelt Hospital, New York, in place of Dr. Sands, who has resigned.

IT is announced that Dr. Frank Woodbury has retired from the management of the *Philadelphia Medical Times*, which will hereafter be conducted by Dr. W. F. Waugh.

DR. CHARLES E. SIMMONS has made a claim upon the Tilden estate of $143,350 for medical attendance upon the late Samuel J. Tilden, from 1879 up to the time of his death, a period covering nearly eight years.

DR. HOWARD A. KELLY and Dr. Barton Cooke Hirst have been elected Associate Professors of Obstetrics in the Medical Department of the University of Pennsylvania. They will jointly occupy the chair made vacant by Dr. Penrose's resignation.

THE AMERICAN RHINOLOGICAL ASSOCIATION will hold its Sixth Annual Meeting at Cincinnati, Ohio, September 12, 13 and 14, 1888.

DR. JOHN NORTH, *Secretary*.
Keokuk, Iowa.

TO PHYSICIANS.—I offer for sale my place consisting of forty-five acres, dwelling of five rooms, office, and other outhouses, twenty-five or thirty acres cleared, balance timbered, located on public road from Macon, Ga., to Hawkinsville, Ga., eight miles from the growing city of Macon, Ga. It is situated between two railroads, viz., the South Western from Macon to Columbus, Ga., Montgomery, Ala., Eufaula, Ala., and Bainbridge, Ga. The other from Macon to Palatka, Fla., which runs near the line. The South Western runs in front a half a mile distant. There are two stations and post offices on the South Western Rail Road—Rutland, one mile off, and Walden, two and a half, in Bibb Co., Ga. The Florida Rail Road will be completed in Fall. I offer this place at three thousand dollars, and those who wish to practice and purchase this place can confer with me.

J. W. SHINHOLSER, M.D., Macon, Ga.

EDITORIALS.

THE CONNECTION BETWEEN TEA AND TEETH.—The English medical journals of late have raised an interesting question concerning the effect of tea drinking on the teeth. An English army surgeon with remarkable observing powers discovered that a large percentage of the men who were refused by the recruiting officers of the army on account of bad teeth were tea drinkers. The next step in the syllogism was not difficult to take. Therefore, the decay of the teeth of these men was due to the tea they were in the habit of drinking. Now he opined that the two deleterious elements in the tea were tannin and theine. When last heard from the question had not been settled with satisfaction to the propounder whether it was the tannin or the theine that was the cause of the decay. The English are a nation of tea drinkers; they will drink tea four times a day, and oftener if strongly tempted or not otherwise engaged. The habit is common to the lower, middle and upper classes. It has been suggested that theine has a selective action on the enamel and dentine of the teeth; this is not a local action, but one that is systemic, acting through the medium of the general economy. We know of no observer, no experimenter who has attributed any such power to theine or tannin up to this time. That, however, is no argument against the possibility of these agents possessing such an influence. An examination of the teeth of a large number of Chinamen would not be amiss at this juncture. Perhaps, some English medical man in China will yet settle the question by observations amongst the largest tea drinking nation on earth. A recent issue of one of our morning journals has contained the opinions of many of our most distinguished surgeons on this point. The unanimous conclusion seemed to be reached that no such selective action was possessed by these agents as far as they knew. These surgeons ridiculed the idea, but there were not lacking some who threw in the saving clause that the drinking of too much tea *might* affect the teeth deleteriously by affecting the general health. Although strongly inclined to favor the above opinion, we deem it best to withhold our final decision until further evidence is brought forward. In view of such evidence as has been brought forward, we honestly confess that the only relationship which we can detect existing between tea and teeth is the fact that each word commences with a *T*.

A SUGGESTION TO ESTABLISH CRUISING HOSPITALS FOR THOSE SUFFERING FROM CONSUMPTION.—The London *Lancet* of June 2d contains an editorial relative to the fitting of ships for the accommodation of those convalescing from sickness in general, and especially of those who suffer from phthisis. It is stated that such a thing has already been done in England, but the objects of the editorial comments is evidently to commend the idea and to impress upon those engaged in the undertaking the necessity of having the vessels fitted up in such a way that all the facilities may be at hand that are demanded by the cases. It is questionable whether a phthisical patient would be benefitted by a sea trip if he has to spend even a part of his time below in the nauseous *stuffiness* of a cabin. The necessity of having only such food as can be carried on shipboard also furnishes a formidable objection to the successful pursuit of such a scheme.

The most rational form of treatment for phthisis at least is to furnish the patient with fresh, pure air and fresh, wholesome food. It has been supposed that one at least of these *desiderata* may be obtained at great elevations. In this belief sanitariums have been built on towering elevations, and have attracted many thousands of suffering mortals, who go thither in the vain hope that they will escape from the foul breath of their enemy, or thus be enabled, by gaining pure air, to successfully combat his onslaught, The air of great elevations has been found to contain very small quantities of bacteria, but pure empyricism had pointed out the excellence of pure air in the treatment of phthisis before any microscopist had caught and stained the bacillus of tuberculosis. The investigations of Dr. Dennis, of New York, have shown that very few bacteria exist in mid-ocean in the saloons and cabins of crowded ships. His investigations also showed that the number of bacteria were in inverse proportion to the efficiency with which ventilation existed in the spot where the experiments were made.

He moreover showed by repeated experiment that when an aseptic gelatine capsule was exposed over and directly in front of the bow of the ship, *no colonies of infection* appeared in the gelatine.

As far as one can judge from these investigations, the air of mid-ocean is without bacteria, and those that were found in the ship were land-born. They had taken passage unregistered and unseen. Investigations made with the water of New York Bay, have shown that a number of bacteria are found in a variety of specimens taken from a variety of localities. As far as we know, however, no one has discovered any in the water of mid-ocean. Now, the air of great elevations is relatively pure, but can never be absolutely so, as long as vegetation exists there or men come and go. Moreover, the atmosphere is rarer the greater the elevation, and such air is not always welcome to those with weak lungs. The blood pressure at great heights is such that it has been known to cause pulmonary hæmorrhage. Nature probably intended that men should live and have their being in an atmospheric pressure of 14.7 pounds to the square inch. It is rational to suppose that if all the indications for the treatment of phthisis can be followed at the sea-level, we will more nearly work in unison with the *vis medicatrix naturæ.* The excessive changes of temperatures between night and day in the mountains, is hardly desirable. There has been, for the last few years, a great pilgrimage of sufferers to the balmy woods of Forida and Georgia during the harsh months of winter. They can hardly seek there rarified or pure atmosphere; it is undoubtedly the search for an equable temperature and the variety of fresh food that can be had there. The rearing of palatial hostelries in St. Augustine show that the invalids are seeking the salt air as well as the salubrious climate.

Salt air is recognized as beneficial in its effects on the mucous membranes; possibly, in the first place, on account of its pureness; in the second, on account of the local and general stimulative properties which it possesses, by virtue of the various medicinal agents contained in it. The first step in this direction in this country has already been taken by certain charitable societies of this city who charter boats for the purpose of giving the poor children of the city the healthful influence of a trip down the bay during the hot mid-summer days.

These considerations suggest a *vast field for enterprise, and for the better care of consumptives and invalids of all descriptions*.

It would not be a colossal undertaking for some wealthy private individual, and certainly not for a wealthy corporation, to have constructed on scientific principles, under the direction of scientific medical men, vessels in which a certain number of phthisical patients might be treated with the best chances for recovery. It would not be necessary to be always at sea; in fact, such a thing would partly defeat the object in view. It would be necessary to hug the shore sufficently closely, so that fresh vegetables and water might be gotten at proper intervals of time. In the winter months the ships could cruise about in southern waters, always in easy run of port. In summer, cruises could be made in northern waters. A staff of efficient medical officers and all the appliances and medicines necessary could easily be acquired. If there be difficulties in the way of this venture, we believe they can be eliminated. There are thousands of sufferers possessing everything that life can yield, save health; thousands who are slowly and surely being suffocated with the foul air of populous cities, many of whose lives might be saved; all of whose lives would be prolonged by such an undertaking.

This is a matter which ought to interest not only the medical profession, but the world at large. There are millions of cubic feet of God's pure air, awaiting sick ones who are panting for it and will breathe it, if only those who are able will stretch out their hands and help them to reach it.

THE *British Medical Journal* enters a protest against teaching students to observe facts rather than teaching them to think about them. "Students should be taught correct thinking," it says. It claims that they are always being taught facts, but rarely how to think about them. All will agree with the *British Medical Journal* in this statement, but very few will regard "teaching students to think" as a specially feasible task. A course of logic and philosophy may be the foundation upon which the art of correct thinking is laid; but even after that, it depends very much upon whose mind does the thinking, whether it is well done and likely to be useful. As an illustration of this, perhaps some of our readers may remember the country doctor who took a student with him, and one he had been training to think, to see a patient who had sent for him in great haste. The doctor soon stood by his bedside, and, with the gravest manner and most rebuking tone said: "I need not ask what is the matter. You have been eating watermelon." "It is a fact, doctor," said the agonized patient, "I can hide nothing from you."

After carefully administering the proper emetic, the doctor and student took a dignified leave. Upon entering the buggy, the student exclaimed: "But, doctor, how did you know what was the matter?" "My dear boy," said his friend, "I saw the watermelon rinds in the yard!" A few days after this, the student was sent by his busy preceptor to see a patient not very sick and not very important, and bade him think carefully over what he saw before making a diagnosis. So the student, obeying his instructions, made a careful clinical examination, and then said, in a grave and solemn tone: "Sir, you have been eating a horse." The patient sprang from his bed, and angrily dismissed the student from his house, saying, "Go and tell your preceptor to come himself when he is sent for, and not to impose upon me in this way again." Disconcerted and crestfallen, the young man returned and told the whole circumstances to his preceptor. "But why, asked this thought-teacher, "did you say he had eaten a horse?" "Because," said the student, "I saw a saddle hanging in the front hall!"

THE PROFESSIONAL REMINISCENCES OF DR. BENJAMIN E. COTTING, OF ROXBURY, BOSTON, MASS.—There was read not long ago, before the Massachusetts Medical Society, and afterwards published in the *Boston Medical Journal* and now in pamphlet form, one of the most delightful series of Professional Reminiscences ever given to the profession or the public.

In another issue the readers will find in this JOURNAL some extracts from these "Reminiscences" of Dr. Cotting which they will read with much interest. They cover a period of fifty years of active, intelligent medical life. During this time so much of importance has come to pass in the history of medicine that a large volume would not be too much to devote to such a subject.

AT the last meeting of the Ophthalmological and Otological Section of the New York Academy of Medicine, the following motion was made and carried:

"That a committee be appointed, of which the chairman of the Section, Dr. David Webster, be a member, whose duty it shall be to obtain a good photograph of the late Dr. Cornelius R. Agnew, for the purpose of having engravings suitable for framing made from this. The right of issue and sale of such engravings shall be given to some first-class publisher, if practicable; if not, the committee shall offer them to the profession at cost."

In accordance with the above, a committee has been appointed. Members of the profession who desire such an engraving accompanied by an autograph signature, should send their names and addresses to the Secretary, of the Committee, Dr. Charles H. May, 640 Madison

Avenue, New York City, at once. When all such names shall have been recorded, those who have requested a copy of the engraving will be notified of the cost of the same, either by the publisher or by the committee having the matter in charge.

DR. WM. A. HAMMOND, the justly distinguished specialist, has in preparation a very fine and beautiful Sanitarium in the neighborhood of Washington. In this building he will have accommodations for thirty invalids who will of course belong only to the class of nervous sufferers. There can be no question of the success of this enterprise for Dr. Hammond's ability and enthusiasm would render successful any undertaking whatever. The Sanitarium will be ready for occupation in November.

THE DEATH OF THE GERMAN EMPEROR.—Death has at last come to the relief of the patient and heroic Emperor of Germany. He died on Friday, June 15th, at 11.12 o'clock, the immediate cause of death being apnœa. Sir Morell Mackenzie was the attendant physician to the end. An autopsy was made at the command of the present Emperor, and the suspicions of cancer are said to have been confirmed. The whole interior of the larynx is said to have been involved in the process. The cavity was much dilated, and its structures presented the appearance of a soft pulpy-like mass. There was also suppurative inflammation of the larger and smaller bronchi.

It will be interesting to read Mackenzie's official report of the course of the disease and the result of the autopsy. Considerable interest also will be attached to Virchow's final report.

IN the *South-Western Medical Gazette* for May, 1888, the leading editorial article, under the heading "A Reform Needed," discloses a state of affairs existing in regard to the management of the Eruptive Hospital in Louisville, Kentucky, under control of the Charity Board, which is certainly remarkable, to say the least. To quote the language of the *Gazette*: "It seems that for a number of years the nurse at the Eruptive Hospital has had the entire management of all cases of small-pox sent to the hospital. The specious and silly excuse has been offered, that this nurse had had great experience with this disease, and two years ago a bill was slipped through the Legislature legalizing him as a *Doctor of Small-pox*." The name of this nurse with the unique title "Doctor of Small-pox" is Faust. Unlike the Faust immortalized by the genius of Goethe who could boast that he had with hot endeavor thoroughly studied philosophy, jurisprudence and medicine, and alas! also theology, yet must make this confession: "Here I stand, poor fool and am just as wise as before," unlike him we repeat this modern Doctor Faustus without study is wiser than the school instructed. He is one of those of rare genius that need not to burn the midnight oil nor tax the intellect by excessive thought. To him by intuition comes knowledge in its fulness. In one respect however, he is like Faust of Goethe's drama when the latter says "No scruples nor doubts torment me." After all it is not this man to whom censure is to be applied. The man or men who should be adversely criticised for recreancy to the dictates of plain duty are those members of the medical profession on the Board of Charity Commissioners who help to maintain this condition of things. It has been well said that in the government of the affairs of a hospital, the medical staff should be represented on the Board of Governors in order that no unnecessary friction should occur, this is certainly true but it is equally important that the medical staff should be represented by men who know how to maintain the dignity and honor of the medical profession and as we believe this is the best way to subserve the interests of the public at large, we hope that at no distant day the Charity Commissioners will change this condition of things which is certainly incapable of defence.

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ORIGINAL ARTICLES.

ARTICLE I.

THE NATURAL MECHANISM OF THE EXPULSION OF THE PLACENTA AND THE PROPER MANAGEMENT OF THE PLACENTAL PERIOD.*

By GEORGE T. HARRISON, M. A., M.D.

The subject to which I ask your attention this evening may seem to some among you, at first thought, either of slight importance, or else so completely exhausted that further comment is unnecessary and superfluous. A moment's reflection, however, will, I think, convince you that such a judgment is far from the truth. In a paper read to the Obstetrical Society of Edinburgh, in 1871, on the expulsion of the placenta, Dr. Matthews Duncan uses the following language: "No one will dare to say it is unimportant; for there is no truth in nature which, however insignificant it may appear, has not even now, or may not have in future, bearings upon practical rules which may be of value to the obstetrician." Playfair, in his excellent treatise on the science and art of midwifery, declares in reference to the management of the third stage of labor: "There is unquestionably no period of labor where skilled management is more important, and none in which mistakes are more frequently made." In Germany, within the last few years, a most animated controversy has been in progress upon this theme, as the result of which much valuable material has been accumulated, of great help in explaining the physiology of the placental delivery and, as a corollary, in laying down the principles which should guide us in the management of the placental period. There are still moot points, however, and consequently this may still be considered one of the burning questions of the day. After the Credé method had been adopted by obstetricians in Germany for a quarter of a century, and subsequently had won its way into general use throughout the civilized world, the attention of the medical profession was arrested in 1880 by a publication of Dohrn, in which this author took ground against the active intervention involved in the method of Credé, and insisted upon the adoption of an expectant plan of treatment. Ahlfeld followed him in successive publications, and on the basis of large clinical experience combated the Credé procedure, charging it with producing a greater loss of blood than would ensue if the expectant plan were wholly or in part adopted; and, secondly, holding it responsible for the retention in the uterine cavity of remnants of decidua and chorion to a greater or less degree. And for this writer the retention of such membranes in the cavity of the uterus is often productive of the most disastrous consequences to the puerperal woman. The late Carl Schroeder, in association with his pupils, Hofmeier, Ruge and Stratz, recently studied the physiology of the placental period most carefully, and here, as in so many other directions, we owe a deep debt of gratitude to the Berlin school. So late as the year 1883, Ahlfeld* could complain "that it is certainly a striking phenomenon that the physiological process of the detachment and expulsion of the pla-

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* Paper read before the N. Y. County Medical Association, June 18, 1888.

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* Berichte u. Arbeiten.

centa has remained hitherto almost unknown." . . . "The single attempt to answer the questions here to be solved by a large number of investigations on the living object were made by Lemser in the year 1865, and this work was only lately appreciated." The studies of Schultze and Matthews Duncan upon the mechanism of the expulsion of the placenta, if not fulfilling the conditions laid down by Ahlfeld, have yet shed much light upon this subject and will first be considered, and then certain problems be touched upon belonging here. Only for those among you whose duties as active practitioners have not allowed you the leisure requisite to keep you informed upon the recent investigations in regard to the physiology of birth, I wish to make the explanatory statement that in labor the uterus is differentiated into an active contracting upper portion, the uterine body and a lower passive, flabby uterine segment and cervix, the separation between the active and passive parts being defined by "the ring of contraction." The importance of this division will immediately appear. After the expulsion of the child the placenta arches into the uterine cavity, forming marked torosities, so that blood accumulates between it and the uterine wall. The completely detached placenta gradually descends into the ring of contraction, presenting its fœtal surface, and in its descent inverting and detaching the membranes of the ovum, until it attains to the space formed by "the lower uterine segment" and cervical cavity. The placenta lies in this space, folded upon its uterine surface, and between these folds a coagulum of blood is contained. This mode of the delivery of the placenta is that described by Schultze. Matthews Duncan maintains, however, that it is observed because the natural mechanism is interfered with. He insists that the placenta comes edgeways, its uterine surface gliding along the surface of the uterus; that its foldings, parallel to the length of the maternal passages, are well squeezed together, and that little space is offered for the reception of blood flowing from the uterine sinuses. The uterine wall keeps close to the folded placenta. According to him, in the natural mechanism there is no hæmorrhage worthy of the name. I am convinced from my clinical observations that the mechanism described by Schultze is the usual one, and that what Duncan calls the *normal* is the *exceptional* mechanism. Let us now consider some of the facts which modern investigation has elicited in reference to the anatomy and physiology of placental detachment.

Possessing as we do numerous anatomical studies upon the structure and attachment of the placenta, it is nevertheless a fact that none of them furnish us an anatomical basis on which to construct a theory competent to explain satisfactorily the process by which placental detachment is effected. An exception, however, must be made in favor of the researches of C. Ruge, which undoubtedly help us to a clearer understanding of this process. According to this author,* the following are the microscopical appearances of the zone of attachment of the placenta to the parturient uterus. In consequence of the displacement of the placenta on its place of attachment, called forth by its inability to contract in contrast with the latter, a relaxation begins very soon in the decidua serotina, without, however, going so far as to produce separation. Cords of attachment are formed, to a certain extent, which render it possible for the placenta to follow the contracting surface of the attachment. A species of network of connective tissue is developed which is susceptible of extensive displacement. The connective tissue bands constituting the meshes of this network contain vessels which effect the exchange of gas between maternal and fœtal placenta. This phenomenon furnishes an explanation of the fact that, in spite of the long task of parturition, in spite of frequent labor pains, and notwithstanding retraction of the uterine body, however fully developed, the fœtal circulation is not disturbed. As a consequence of the uterine contractions, a locus minoris resistentiæ is created from the beginning in the placenta, in which also the complete detachment takes place later on. This place is not united to a definite layer of the decidua, but is developed accidentally, sometimes higher, sometimes deeper. In the very beginning of labor, with the first regular pains this phenomenon commences, and the relaxation becomes more complete the longer their duration. It is plain that the effect of the displacement of placenta and uterine wall will be exhibited more in the centre than at the edge, where the attachment is closer. Ruge demonstrated the network developing in the decidua serotina both on the placenta *in situ* and on placenta that had been delivered, and showed that just *here* the separation had taken place. That in spite of the most energetic pains, only this laxity is effected lies in the behavior of the placental place itself. It does not follow the remainder of the uterus in the contractions, and always remains thinner, because the placenta is pressed against it in consequence of the increased intra-uterine pressure during "the pain." The contraction and retraction of the muscular tissue is here more incomplete and does not take place so quickly, and instead of the interwoven and shortened condition of this tissue, as we find it under other circumstances, we see here the saw-like and wavy arrangement longest stamped. As, consequently, the place of attachment does not diminish so energetically in all directions as would suffice for the detachment of the placenta, considering its inability to contract, it is rendered possible for the latter, in view of the fact that it becomes thicker, that its fœtal surface shows projections and furrows, and that its edges protrude widely beyond the place of attachment, to preserve its cohesion with the uterus.

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* Der Schwongere und Kreessende Uterus, Bonn, 1886.

From these researches it will be seen that the detachment of the placenta is histologically pre-arranged during parturition up to the moment when the child has left the maternal parturient canal. An important question now confronts us: Does the change in the size of the uterus, appearing immediately after the birth of the child, suffice for the detachment of the placenta, or are several independent contractions necessary? As Barbour observes, there are three ways of detachment. The separation of the placenta is either:

1. The result of the change in the size of the placental place after the evacuation of the uterus; or

2. The consequence of the hæmorrhage or escape of serum behind the placenta; or

3. The result of uterine contractions and of the endeavor on the part of the uterus to expel the foreign body.

Barbour decides in favor of the latter mechanism. Ahlfeld, from the result of his studies, arrives at the conclusion that "the reduction in the surface of the place of attachment of the placenta is the most important factor for its detachment. Since a detachment of the edge in the first stages cannot, as a rule, ensue, the central part becomes separated. The space formed is filled with blood by aspiration." From the observations of E. Cohn, of Berlin, to whose excellent paper on this theme I beg to acknowledge my indebtedness, it is singly and alone the "pains" belonging to the placental period which effect the detachment of the placenta. "The first uterine contraction of the placental period," says this author, "has the most important effect, whether it appears at the time the child leaves the maternal genital canal, or not until after some time of repose. It effects the detachment which had already during parturition been for the greatest part preliminarily prepared, and facilitates the formation of the retro-placental effusion of blood, which is the second important factor." And here I would remark that the exposition of this theme by Barnes, as found in his excellent text-book, partakes too much of metaphysical reasoning, and consequently his views rest rather upon subjective impressions than objective demonstration. The effect of the second uterine contraction is twofold. The placenta is now, mainly by the blood effusion, completely separated up to the insertion of the membranes of the ovum, and yielding to the pressure produced by the uterine contraction, it will make ready to leave the uterine body. This extension is completed by the following uterine contractions, aided by the natural weight of the placenta itself. The placenta, with the centre of the fœtal surface presenting, now passes through "the ring of contraction" into "the lower uterine segment," where it makes room for itself by passive distension.

As soon as the placenta is detached the placental area is contracted by contraction and retraction of the muscular tissue to such a degree, that the vessels coursing in it are occluded or very much narrowed ; on the other side the retro-placental blood usually coagulates so rapidly that, as a consequence, there is a quick thrombosis of the lacerated vessels. Let us note now the behavior of the uterine body as observed through the abdominal coverings—with each uterine contraction the fundus ascends higher and higher, the body becomes smaller and narrower, and the "ring of contraction" which had disappeared immediately after the birth of the child, again becomes very plainly marked—consequently the most certain clinical symptom of the detachment and extrusion from the uterine body of the placenta is the ascent of the fundus uteri, the diminution of its size, the manifestation of the furrow corresponding to "the ring of contraction," and "the lower uterine segment" distended by the extruded placenta. This detachment of the placenta from the uterine wall and its extrusion into the lower uterine segment occurs almost without exception without external aid. Consequently it may be logically inferred that, leaving out of the question pathological cases, the natural forces are fully adequate to effect the detachment of the placenta, and that there is no necessity of any *sort of active intervention on the part of the obstetrician to assist this physiological act.* Having in view the physiological facts just discussed, what it may now be asked is the best method of managing the placental period. Four methods may be enumerated as having advocates among distinguished obstetricians. First is the method of Credé, which is the one most generally adopted, the essential feature of which is that the placenta is manually expressed out of the uterine body. Secondly the Dublin method described by McClintock and Hardy in 1848, and afterwards by Barnes and Speegelberg.

This manipulative procedure consists in this, that immediately after the exit of the child's head through the vulva, the hand is laid on the fundus and by friction and kneading energetic contractions are evoked, so that the placenta is quickly separated and is expressed beneath "the ring of contraction." By further pressure it is forced out of the vulva. Thirdly, by the expectant method which has Ahlfeld, Dohm and Freund as its advocates, the separation and extrusion of the placenta is left, as a rule, to the natural forces. Fourthly, the method of Schroeder—which I give in his own language: "I consider it the best procedure in the placental period, after the expulsion of the child, not to rub or press the uterus, but to wait quietly until the diminution and ascent of the uterine body and the protuberance above the symphysis indicate that the placenta is expelled from the uterine cavity, then by gentle pressure to expedite its passage through the vulva." The observations of Cohn show that the spontaneous expulsion of the placenta out of the uterine cavity into the "lower uterine segment" requires for its completion five to fifteen minutes. After this is accomplished, further delay is unnecessary, as the placenta can be removed now without injury, and left alone, might remain undelivered hours, nay, for days. The manipulation which Schroeder employed was to place the side of the hand in the furrow underneath the uterine body and then to exert a gentle pressure downward. As this procedure requires a good deal of practice and skill, Schroeder recommended subsequently the gentle pressure of the fundus uteri down into the superior strait. As Cohn remarks, the contracted uterine body acts like the piston of a syringe, which drives everything movable in front of it. This method of Schroeder I have found perfectly satisfactory in practice, and would urgently recommend its general adoption. The method of Credé I would reserve for the cases in which the placenta does not become detached, or those in which it has been separated in the way described by Duncan, and consequently has remained with the upper edge fixed in the uterine body. When there is some obstacle which prevents the placenta from escaping completely out of the uterine body, as for example, might occur when a very large placenta had to pass through a moderately contracted "ring of contraction," this method would be indicated. I concur entirely in the views expressed by Credé in regard to the innocuousness of the membranes of the ovum and decidua when retained in the uterine cavity, provided the conduct of the labor has been aseptic. Says this distinguished obstetrician: "I might mention again the fact that in the last four years (1st of January, 1883, to 31st March, 1887), no regard whatever intentionally, was paid to the frequent occurrence of retained remnants of ovum and decidua in 4,969 births which took place in the Leipzig Clinic and Polyclinic, and that no single puerperal woman died of this treatment of omission or was even very sick, and only slight disturbances occurred in the uterine secretion (bad odor, moderate, transitory, elevations of temperature, a matter of indifference, the general condition being otherwise good). . . . If we leave the womb at rest with its contents of remnants of the ovum, no disease of any sort of significance follows, to say nothing of a case of death."* The views I have here advocated I believe rest on a firm physiological basis, and with that conviction would commend them to your earnest consideration.

ARTICLE II.

Chronic Ulcers of the Leg.

By T. C. Wallace, M.D.

In this my first contribution to the pages of Gaillard's Medical Journal I desire to present my views regarding the nature and treatment of *chronic* ulcers of the leg. I have chosen this as my subject from the fact that this complaint is a common and very often an exceedingly loathsome one—one to which I have devoted much attention, and one, too, with which I have had a very considerable experience. Because it is a painful and often an intractable disease, stubbornly resisting for weeks and months all efforts made for its cure, until many times doctor and patient become mutually discouraged (not to say disgusted), the treatment is abandoned, the patient resorting to the use of different nostrums and at last giving it up as hopeless. Dr. Gross (" System of Surgery ") says : " Chronic ulcers of the leg have long been regarded as an opprobrium of surgery, and many patients are obliged to carry their malady with them to the grave, notwithstanding the numerous attempts that have been made to get rid of it." Also for the reason that in my opinion the true principles which should govern the treatment of these cases are most imperfectly taught by our surgical authorities, and consequently imperfectly understood by the profession in general. The directions given by our standard authorities for the treatment of this disease are exceedingly vague and unsatisfactory, afford very scanty and imperfect information. All pursue the same plan and recommend the same treatment (which has proven unreliable) as has been practiced for so many successive years. Before we can hope to attain to any great success in the treatment of this class of disease, it is rational to expect we must first acquire an intimate knowledge of the cause which originates these ulcers and which so obstinately resists the process of their healing. It will be necessary fully to understand why the ulcerative process occurs more frequently in the lower limb, especially in the lower part of the leg; why it is more difficult to heal; and why, when once healed, it is more likely to recur in this situation than it is in any other part of the body. Every physician even of limited experience knows this to be the case; knows that the lower down the leg these ulcers are found, the more difficult they are to heal; the more remote the position of the sores from the centre of the circulation—the heart—the more tedious and uncertain will be found the reparative process. These facts prove conclusively that their *position* is an important consideration. More than that, it is the key to the full explanation of this state of affairs. It will be found that the persons on whom these ulcers most frequently occur are those whose vocations or habits of life are such as to hinder the free flow of blood through the veins of the lower extremities. In women this hindrance to the circulation is often occasioned by pressure from the gravid uterus, often by the habit of constantly wearing tight, inelastic garters. In men we find these ulcers oftener in those who suffer long-continued exposure to cold and wet, in those who remain for consecutive hours in a standing position, and in these more particularly if they stand still. The weight of the long superincumbent column of blood weakens the already weakened vessels and hinders the circulation of blood through the limb. In my opinion you will scarcely find a case of *chronic* ulcer of the leg (excluding those of a specific nature) which is not either caused by or in some degree influenced by varix. One strong reason for this opinion is that I have uniformly found for many years all classes of *chronic* ulcers to be amenable to the same treatment. Whatever has cured the varix has also been efficient to cure the ulcer.

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* Archiv fur Gynækologie, Bd. XXXII. Hft. 1.

The subject of this present paper, as announced at its beginning, is *chronic* ulcers of the leg. By its very terms it does not include acute ulcers, and I wish also to exclude from consideration ulcers of a specific nature, even if *chronic*. The chronic ulcers under consideration are generally classed by our text-books as the weak, the indolent, the irritable and the varicose. Some surgical authorities consider all the classes named to be but different forms of varicose, and Dr. Miller, of the University of Edinburgh, goes so far as to exclude the name of varicose as descriptive of a class. In his "Principles of Surgery" he says: "Many sores on the lower extremities are accompanied, or rather caused by (at least in part), a varicose condition of the veins, and by some the *varicose ulcer* is entered into the general classification. But, in truth, this term does not express an individual kind, but comprehends every variety of sore; for all, or almost all, may be attended by and partly result from a varicose condition of the veins. The irritable is very common under such circumstances; so is the inflamed. The indolent and the weak, especially the former, are said by some to be the types of the most frequent examples of the varicose ulcer; but, according to my experience, neither are more common than the irritable. . . . Perhaps the least frequently accompanying is the healthy sore, as can be easily understood when it is remembered that varix and papire are all but synonymous, and that this state is very unfavorable to all sthenic and salutary vascular action." As before stated, the intractable nature of this disease arises solely from its position being such that the circulation through the limb is retarded. It would follow, then, that if by any means the circulation through the limb can be placed on a par with that of the rest of the body, an ulcer situated on the leg will heal as readily as will an ulcer on any other part of the body, and such indeed is found to be the case. The way which most readily suggests itself to accomplish this result, to remove the weight of the long column of blood from the weakened vessels, is the recumbent position. Place and keep the patient in bed, and perfect rest with the simplest possible treatment will effect a cure. However efficacious this remedy, it is in most cases unavailable. Necessarily engaged as most people are in some active pursuit in life, confinement to bed for weeks, or perhaps months, is entirely impracticable and out of the question. The great *desideratum* for the successful treatment of these cases is some method which will permit the patient to continue his ordinary business, which will not require too frequent attention, and which will be reasonably prompt and certain to effect a cure. Such a treatment I have used for more than thirty-five years, and during this long period it has never disappointed me. I have cured with it many cases of severe and long-standing ulceration, some of which had resisted repeated and prolonged treatment at the hands of different skillful physicians. A majority of these cases have been among people whose work necessitated vigorous exercise or (even worse than this), long-continued standing in one position, a class in whom these ulcers are peculiarly difficult to cure. In no case have I required any of my patients to change their vocation or abridge their hours of labor. In 1852 I found in the library of a physician (now deceased) with whom I was then in partnership a complete file of the London *Lancet*. In volume ix. of that journal (A. D., 1849) was published a series of six "Clinical Sections on the Nature, Causes and Treatment of Ulcers of the Lower Extremity," delivered at the London Hospital by George Critchett, Esq., F. R. C. S., which I gave careful study and to which I am indebted for this invaluable method of treatment. I knew at that time an aggravated case of chronic ulcer of both legs which almost entirely crippled its victim, had resisted many efforts made for its cure by the best surgical skill in central New York. It had existed for nearly twenty years and had been pronounced incurable. I obtained permission to try this new treatment, and had the great satisfaction of finding marked improvement at once and of effecting a cure in a few months. The gentleman enjoyed entire immunity from this disease for the rest of his life, about sixteen years. I have examined every surgical work published since the date of these lectures to which I have had access, and have been greatly surprised to find in none of them any description of Critchett's method (as I always call it), nor any mention of the same except this single sentence in Gross' "System of Surgery": "Occasionally, as when the ulcer is associated with a varicose state of the veins of the extremity, the entire foot and leg may be beneficially enveloped with adhesive plaster for some distance above the sore, as originally suggested by Mr. Critchett." No person would get the slightest idea of this mode of treatment from the above quoted sentence, nor was the treatment "originally suggested by Mr. Critchett," that gentleman giving the credit of originality to Mr. Scott, of Bromley. During this long period I have never seen in any medical journal any reference to this treatment, nor have I met any physician who was acquainted with it save those who have learned it during their pupilage in my office or to whom I have made it known. For this (to me) astonishing fact I can only conjecture this explanation: In 1797 Baynton, an English surgeon, introduced a plan of using strips of adhesive plaster in the treatment of these ulcers, and as Critchett also makes use of adhesive plaster, the one has been confounded with the other. The mistake has been made of considering them as essentially the same plan, whereas the only thing common to them is that both use the same material. Baynton's plan is mentioned in nearly every surgical work, is widely known by the profession, has been extensively tried, has often proven inefficient and not seldom productive of injury, hence discarded, and therefore this new plan has not received merited attention. These plans are not only totally unlike in principle, but they are also entirely different in method of application. Baynton says: "I determined to bring the edges of the ulcer nearer together by means of strips of adhesive plaster." Critchett's idea is: "To afford uniform and complete support to the entire limb by a proper application of strapping." The one aims simply to approximate the edges of the sore, the other to remove the cause of the disease by a firm and equable support to the entire limb. Baynton thus describes his plan: "Take pieces of diachylon plaster spread upon calico about two inches in width, and of such a length as to encircle the limb and overlap at the ends to the extent of three or four inches; the middle of each piece so prepared is to be applied to the sound part of the limb opposite to the inferior part of the ulcer, so that the lower edge of the plaster may be placed opposite to the inferior edge of the ulcer, and the ends drawn over the ulcer with as much gradual extension as the patient can bear; other strips are to be secured in the same way, each above and in contact with the other, until the whole surface of the sore and the limb is covered one inch below and two or three above the diseased part. The force with which the ends are drawn over the limb must be gradually increased, and when the parts are restored to their natural ease and sensibility as much may be applied as the calico will bear or the surgeon can exert." If to facilitate the return of blood through the entire limb be the great object to be gained in the treatment of these cases, Baynton's plan, so far from accomplishing this object, has a direct tendency to impede the circulation through the limb and to produce stagnation and its attendant train of evils. And even if it produce benefit in a few cases to the dilated capillaries immediately around the sore, this advantage will usually be more than counter-balanced by the injurious effect upon the rest of the limb. I have often seen this plan tried by most skillful practitioners, but unless the limb was kept at rest, and generally the rest must be nearly or quite complete, I have never known it to succeed. I have oftener known it to be discarded after a few trials on account of its increasing the congestion below the strips, the consequent swelling and pain necessitating its prompt removal. I will now describe Mr. Critchett's manner of applying the adhesive plaster. You should be provided with a sufficient number of strips cut from a sheet of adhesive plaster, about an inch and a half wide, and long enough to encircle the limb and overlap a few inches at the ends of the strips. I use Taylor's English plaster, which comes in sheets a yard long, five yards in a roll. It is sufficiently strong and adhesive, non-irritating to the skin, cheap, and its width (about sixteen inches) furnishes strips about the length required. Some means for properly warming the plaster will also be necessary. If the leg should be uncommonly hairy it may be well sometimes to have it shaved before applying the strips, although I have very seldom found this to be necessary. Everything being in readiness, you will seat the patient in a chair opposite the one in which you sit, having between you a stool or a chair turned side-ways, upon which the patient places the point of his heel, making moderately firm pressure therewith, thus leaving ready access to the rest of the foot. Having duly warmed a strip, you will apply the middle of it to the *back* of the *heel*, as low down as possible, and press it smoothly along the sides of the foot, letting it reach to the head of the metatarsus. The manner of placing the strips upon the skin is a matter of prime importance to the success of this treatment. A very ready and natural way is to take hold of the ends of a strip, and drawing them tense lay them upon the surface. However natural this may be, it is precisely the thing which should never be done. The strip, after being applied at its middle, should be smoothed along the sides of the foot by the flat of both hands, pushing from the point of attachment towards the ends of the strip. This will insure a perfectly smooth application, the whole surface of the strip will be in perfect apposition to the foot, and there will be no wrinkles.

Another and important point, you will, by this way, be enabled to perfectly regulate the amount of pressure you may wish to use. No attempt must be made to twist or guide the strip out of the course it tends to take, but it must be allowed to run along as naturally inclined so as to fit smoothly and flatly. The second strip is placed (as far back as possible) *under* the heel, carried upwards in a similar manner, at right angles to the first, along the sides of the foot and reaching up the leg. The third strip is applied *behind* the heel, overlapping the first about one-third of its width. Each strip should overlap its predecessor in the same position, about one-third *at its ends*. This will necessitate that the overlapping shall sometimes be one-half or even two-thirds at its middle, otherwise a large space will remain uncovered between its ends. This third strip will generally fit smoothly alongside the first throughout its whole length. When the concavity just above the heel is strongly marked, this strip, and a few immediately following, will take a downward direction, sometimes going even under the foot. I find it better that a few of the strips first applied behind the heel shall be cut about one half an inch narrower than the rest. The fourth strip will be placed *under* the foot and carried upwards like the second one. As you proceed with the remainder you will bear in mind this principle of alternation, that the rule is that each strip shall cross and thus hold in place the one applied just before it. You will, therefore, thus place them behind the ankle and under the foot until the whole foot (except the point of the heel) shall be covered as far as the base of the toes. You will then place them upon the leg (still guided by the principle of alternation), until the leg is covered as high up as necessary. I have found it a good plan to carry the plaster as far as the knee, at any rate for a few times. Afterwards, if there are no greatly distended veins above the ulcer, it will be found quite sufficient to apply but two or three strips after the ulcer has been completely covered. No attention is to be paid to the location of the ulcer when applying the strips (covering that up with the rest of the limb) with this single exception, the *end* of a strip must not be allowed to rest upon it, as it would irritate and render it painful. The *edges* of a strip will do no harm, and it is entirely immaterial how many strips *cross* the ulcer. When the dressing has been completed (save the point of the heel) the skin should be completely hidden from sight from the toes to the top of the plasters. A bandage is now firmly applied over the plasters, and the patient dismissed to his ordinary vocation. At first walking will be difficult, there will be several thicknesses of plaster on his ankle and instep where the ends of the strips have been crossed, but after a few steps these become pliable and give no trouble. If the limb was much swollen, the dressing will become quite loose in three or four days, and perhaps much soiled by the purulent discharge from the ulcer. After the plasters have been applied a few times, they may be allowed to remain a week or even ten days without removal. I usually direct patients to come to me for its removal whenever the legs feel uncomfortable. To remove the dressings under the centre of the distal edge of the plaster on the bottom of the foot, insert one blade of a pair of scissors (the strips will be found to be somewhat loose and can easily be pulled off the skin a little) and cut lengthwise of the sole straight to the opening at the heel; then, commencing at the top of the plaster in like manner, on the side of the leg opposite the sore cut to the same opening. Loosen the cut edges, and with one quick pull remove the whole sheet. The leg should then be bathed with warm water and soap and thoroughly dried before the strips are reapplied.

When the congestion is confined to the immediate circumference of the ulcer, the limb is in an otherwise healthy condition and the ulcer situated high up on the leg, this extensive strapping will not be necessary. Short strips applied crosswise of the sore, so as to cover the ulcer and for a few inches above and below it will answer, but in no case must these strips encircle the limb. It is a rule that is without exception, that in every case where it is necessary to apply strapping entirely around a limb, it must never be partially applied, but must encompass and support the whole limb from the toes to some part above the ulcer. When the limb is œdematous you can scarcely apply the strips so tight as to inconvenience your patient, but as the healing process advances, the swelling and induration subsides and the limb resumes its natural size, an amount of tightness which was beneficial and agreeable, will become injurious and painful, and you must moderate the tightness, taking for your guide what will be comfortable to your patient. You will find immediate and rapid improvement from the very commencement of this treatment; but as the cure advances you should not be disappointed if the progress be much slower than at first, and sometimes extremely tedious before the ulcer entirely heals, owing to the feeble resources of the newly-formed skin for carrying on the reproductive process. When the ulcer has dwindled in size, until it has become a small sore situated in the depression between the malleolus and the os calcis, the diseased vessels immediately around the sore often require more pressure than the rest of the limb can bear. The ulcer will close faster if before applying the strapping a few narrow strips about six inches in length are applied across, and for a little distance above and below it. As these strips do not encircle the limb they should be applied with sufficient tension to bring the edges of the ulcer as near together as possible. You will in this way combine local pressure upon the weakened and distended vessels immediately around the sore, with firm support of the entire limb. Sometimes the cure will advance very rapidly, almost to completion, the ulcer be reduced even to the size of a split pea and then obstinately refuse to close entirely. I have generally in such cases succeeded in completing the cure by causing a scab to form over the sore by a free use of nitrate of silver.

At the risk of being tedious I again call especial attention to the proper manner of applying the strips. Never take hold of their ends and bring them down upon the limb, it is impossible to properly apply them in this manner. I did this a few times at first, but never that I did not regret it, generally I had to remove the dressing the same or the next day, because it became painful, and if I did not I would find when I did remove it that some of the edges had cut into or chafed the skin, or had been wrinkled and made uneven pressure upon the limb. To those who have never used this treatment this may seem a trivial matter, but too often it is the little things that make or mar our fortunes. Always apply the strips by using both hands in the manner previously directed, just as you would do if you were applying a strip upon a perfectly plain surface by smoothing it down.

With the relation of one case, which I have selected solely because it has been under my immediate observation from the time treatment was commenced, I will terminate this (perhaps too) long paper. In the Spring of 1884 came to me J. R. Irish, æt fifty-three years, stating he had a "fever sore on each leg" of many years' duration, which had been treated by many prominent physicians (naming them), with little benefit and had been by them pronounced incurable. Strips had been applied according to Baynton's method, innumerable salves and washes had been used without avail, and his condition had become so unbearable he sought some means of (if only) temporary relief. There was worn constantly on each leg a bandage applied by himself, which long practice had enabled him to put on very smoothly and firmly, and which he renewed each morning and evening. He was unable to do scarcely any labor, and besides the sufferings from his disease was obliged to undergo the privations incident to extreme poverty. Painful as were the legs almost all the time, they often became exquisitely so, especially at night, and the most relief experienced was by getting up and holding them for a long time over a hot stove, roasting them as he called it. Above, behind, and including the ankle of the left leg, on the inside, was an ulcer irregularly circular in form, by actual measurement five inches at its widest, and four and one-fourth inches at its narrowest part, with thick, raised, hardened edges, and a foul, unhealthy, fungoid surface, which secreted a profuse, sanious and horribly fetid discharge. The lower part of the leg for some distance around the ulcer was of a dark purplish color, and indurated by œdema. This sore had existed nearly thirty years, and although at times it had been somewhat better than at present, it had never been healed. On the outside of the right leg, over the malleolus behind it, and in the hollow made by that process and the os calcis, was another ulcer about one-half the size of that on the other leg and presenting the same appearance. This had been healed over three separate times, but for only a little while at a time, and had now been open for six years. It first appeared sixteen years previous to my having seen it. It seems singular that this sore, notwithstanding its comparatively brief existence and small size, did not heal over nearly so readily nor quickly as did its fellow, but required five more dressings. The first strapping was put on March 9th, and on the 28th of the next July the last sore was entirely healed. A pair of three-quarter elastic hose were then put on and worn so long as they lasted, since which the legs have neither had nor needed any treatment or application whatever, not even a bandage. During the treatment no internal medication was resorted to, nor was anything used externally except the strips of adhesive plaster. I examined the legs, since I commenced writing this paper, finding them entirely well and free from any tenderness or soreness. Immediately surrounding where the ulcers were, the skin is of a dark brown color, and experience teaches me that this color seldom, if ever, disappears, as it is of the nature of a scar, due to some permanent change in the capillaries of the skin. The first four strappings were renewed every third day, afterwards at intervals of one week, except a few times toward the last when ten days were allowed to intervene between the dressings. The pain, both by day and by night ceased wholly after the first application, and he walked without limping after two or three dressings. The latter part of the next April he went to work in a livery stable, and has been steadily engaged at some sort of labor ever since, working as a farm laborer last summer and this last winter as a wood chopper.

Cambridge, N. Y.

ARTICLE III.

ADVANCES IN BRITISH OBSTETRICS AND GYNÆCOLOGY.

By E. S. McKEE, M.D., Cincinnati.

The following is a part of the paper read by the author before the Cincinnati Academy of Medicine.

The importance of pure air and a free circulation in the sick-room has always been acknowledged by intelligent physicians. Meteorology as an ætiological factor in puerperal fever has been brought prominently forward by Dr. Robert Barnes of London. A constant supply of air, dry and comparatively rare, as well as pure is required. Air saturated with damp or mist he considers the most dangerous form of meteorological conditions. The lying-in chamber should face toward the south and the room should be heated by a fire in an open grate. Heating by steam pipes he considers abominable in a sanitary point of view. The wind is the lowest in the early morning hours between 2 and 4 o'clock. It is at this time that the meteorological conditions are the worst, and the most attention should be given to ventilation.

Embryotomy is going out of fashion in England, and many hope that the day is not far distant when it will not be employed at all. It has always been an unsatisfactory operation on the living child and its banishment has long been hoped for. It is being driven out by the improvements in Cæsarean section and in the use of the forceps. With increased experience these operations are losing much of their terror.

Crane's method of expressing the placenta as it is generally called is claimed with apparent good authority by the Dublin school of Obstetricians. The ward books of Dr. Chas. Johnston of the *Rotunda* bearing date of 1848 after numerous cases have the terse statement, "Placenta pressed out." The custom was, in fact, so common that they thought further comment was unnecessary.

Abdominal and cerebral surgery is looked upon with pride by the average Briton and considered to be of their own invention. These operations are consequently regarded with much more favor than most measures especially those which are imported from Germany.

In the Rotunda Hospital in Dublin, external palpation of the abdomen in pregnancy is carried to such an extent, that they often make out the smallest parts of the body of the fœtus, while in exceptional cases they can diagnose a case of hydrocephalus, an anencephalic fœtus was once made out, and in a recent case the placental situ was determined.

Nymphomania has been made the subject of much study by Dr. Routh. He arrives at the conclusion that these women are liars, plausible liars, cunning liars—not liars from ill-will, or even free will, but from disease. They are a class of patients with whom the reputation of no medical man is safe, and against whom we cannot be too frequently warned.

Antisepticism is a sore point in the land of Lister. In every hospital and medical society there are those who fight for and those who fight against it. One of the most notable of these cases is at the Samaritan Free Hospital for Woman and Children, where Mr. Thornton follows the rules of antisepticism to the letter, and Dr. Bantock disobeys them almost to the letter. The results of the one are about equal to those of the other.

Improvement in the death-rate under the use of antiseptics in midwifery practice in hospitals has nowhere, not even in the hands of Leopold of Dresden, gained greater laurels than at La Maternité in Paris, in this hospital which is an old tumbled-down convent of the XVIth century, may be seen a chart, the work of Charpentier, which shows the death-rate in the hospital since 1792. This may be divided into three periods: First, the period of inaction, when a death-rate of 9.8 per cent. was had. It reached some years the startling rate of 20 per cent., which might be termed murder. In this period inaction was the rule. In the second period—that of hygiene—the death-rate dropped suddenly to 2.8 per cent. The third period, in which the employment of antiseptics was the great advance, now narrowed down to corrosive sublimate, the death-rate is down below 1 per cent.

Palpation of the shoulder as a means of making out the position of the head in cases where this can not readily be made out otherwise is practiced and recommended by Riviere.

Bromide of potassium and chloral, each 30 grains, has been found quite successful given as an enemata in dysmenorrhœa. This is the practice recommended by Menfere. He gives half this quantity to young girls.

Dystocia, from persistence of the hymen, has been found three times by Charpentier, and he thinks this is not so infrequent as is generally believed. He cites an amount of literature on the subject which would certainly lead to this conclusion.

M. Dumenil, of Rouen, in a case of incomplete inversion of the uterus, which had resisted all efforts at a reduction by the hand, applied the elastic ligature with the object of abating the procident portion. This was an elastic band, four millimetres in diameter, of round rubber, and was applied around the well-formed pedicle at the level of the neck. At the end of seventeen days he was surprised to find neither odor of gangrene nor expelled detritus. The cord came off and he found the uterine cavity perfect. He thinks that the constriction produced contraction of the uterine muscle, which, little by little, expressed itself from the constriction. The method merits trial, offering reduction, assuring section if reduction fails. Another similar favorable report is made by M. Boucet, of Lyon.

The operation of hysterectomy for cancer of the uterus has been held rather in disfavor by the French. Possibly this is so because it is in such great favor among the Germans. Its popularity in Germany is possibly in part due to the disesteem with which it is held in France. It is capable of affording the patient a long period of ease, and if the cancer returns after the operation, it is attended with less pain. The operation is not less difficult than the other abdominal operations, and the statistics are constantly improving. Colpo-hysterectomy is the operation to be preferred, and laparo-hysterectomy reserved for those cases in which the uterus is too large to be removed through the vaginal wound. He recommended the most vigorous antisepsis, and especially praises iodoform gauze. As a rule he prefers to apply sutures without drainage.

Richelot considers the indications for vaginal hysterectomy to the carcinoma uteri, and especially the primary carcinoma of the corpus uteri, carcinoma of the mucous membrane, without visible border of the disease, carcinoma of the collum uteri with extension on to the posterior vagina wall. Also in those cases in which it would seem possible to remove the disease entire by an extensive operation. He thinks the total extirpation should be performed, as by this means the lymph vessels can be more thoroughly removed. He also thinks the total extirpation is indicated in cases of severe retroflexio uteri and in fibroids with serious symptoms and stubborn prolapse. As to the technic, Richelot thought the principal difficulty of the operation lies in the trouble with which the ligature is laid about the ligamenta lata in a secure manner. With the object of shortening the operation he recommended the applying of long clamping forceps to the ligamenta lata, and allow them to remain twenty-four to forty-eight hours. This does away with the sutures and drainage. Duplouy objected to the pressure on the rectum caused by the clamp forceps. In one case he had gangrene from it. For simple cases he prefers the suture and reserves the clamp for the more difficult. Pean claims the priority of this prevention controlling the hæmorrhage, and was the first in France to perform the vaginal total extirpation of the uterus. The application of the clamping forceps he claims to be unnecessary, and thinks it quite easy after the operation to draw down the ligamenta lata and ligate the bleeding vessels in loco. In complicated cases he allows the forceps to remain for thirty-six hours, and has never had any bad results.

The treatment of uterine fibroids by means of electricity has gained very much in favor in the eyes of the profession at large from the workings and writings of that indefatigable worker, Dr. Apostoli, of Paris. The old, and in many respects imperfect method of applying electricity has been supplanted by him with a method for which he claims greater precision, more energy, yet tolerable, better localized, thoroughly under control and more scientifically exact. The positive pole he considers the medicament par excellence in bleeding or hæmorrhagic fibroids. He does not claim to remove entirely the fibroid tumors but to reduce them in size and to relieve the symtoms till the patients do not know that they have a tumor. To those who follow the treatment carefully this cure remains permanent. He recommends absolute and regular antisceptic vaginal irrigations of the vagina before and after each operation. The puncture must be shallow not more than one or two centimeters and made by a small steel trocar or needle. Puncture the most prominent part of the tumor, when possible the posterior cul-de-sac. Avoid arteries by ascertaining the seat of pulsation. The endometrium is nearly always extensively diseased in cases of uterine fibroids and cauterization of it arrests the hæmorrhage. In all cases of metrorrhagia he places the positive pole within the uterine cavity and uses the negative in other cases. This treatment is used with good results in neuralgias, especially those having their origin in the ovaries. Subinvolutions, versions and flexions are treated with success by the enthusiastic author of this method. The system is so intricate and requires so much time to master it sufficiently to practice it properly that few have the time to remain in Apostoli's clinique a sufficient length of time. It is, in fact, largely the work of specialists. Quite a number of English and American medical men are frequent visitors at the clinique of Apostoli, and the longer they stay the more they find out that they do not know about the method of treatment.

M. Duplony reports a case of contagion from cancer. The patient was a man whose wife had been treated seven or eight months before for cancer of the cervix. In the man's case it was on the penis.

H. Thiriar has decribed a new method of distinguishing benign from malignant tumor of the abdomen. If the quantity of urea passed in twenty-four hours is less than twelve grammes we may consider it malignant disease. This also applies to tumors of the stomach.

That stubborn and tenacious discharge which is found exuding from the cervix in chronic cervical endometritis is quite successfully treated by Dr. Clement Godson in St. Bartholomew's Hospital by an application of the liquor ferri subsulphatis and glycerine. It coagulates the discharge, removes it and in many instances cures the inflammation and is followed by conception which was impossible before.

The real normal position of the uterus is becoming better understood in Great Britain from the promulgation of the teachings of Schultze as on this subject. Britons with some others have learned that they must know first the real position of the uterus before they can treat it when malpoised.

New theories as to the delivery of the head in the ordinary vertex presentation have been advanced by Dr. Berry Hart. He thinks the term distension of the head as the fourth consecutive movement of the labor mechanism is a most misleading one. He denies that the chin leaves the sternum while passing the perineum ; and that during the anterior fixation of the occiput under the pubic arch, antero-posterior and increased diameters of the fœtal head form the antero-posterior diameters of the girdle of resistance. He thinks the best method for the prevention of a tear is for the occiput to lead for the head to be driven on, by the steady movement of translationary rotation on a biparietal axis so taking place as to favor occipetal dipping and never dipping of the sinciput. It is the object to restrain the head and keep the occiput in the lead. To accomplish this let the attendant press with his thumb guarded with a napkin soaked in hot sublimate solution gently in front of the anus the patient on her left side. Make this pressure nearly in the direction of the pelvic outlet. This hinders the descent of the sinciput and favors that of the occiput.

The purgative treatment of peritonitis has an advocate in Lawson Tait who recently wrote a paper on the subject. He recommends it especially in those cases following after operative procedures. Puerperal septicæmia has its origin in many cases in a specific poison which defies purgation and everything else. Even the opening of the abdomen and cleaning it out has not been followed by the success in puerperal cases which he has obtained in suppurative non-puerperal peritonitis. He looks on purgation as a prevention of or as a method of abortion of peritonitis, not a method of curing it. Yet in some very far advanced cases of peritonitis a cure has been effected in this way, if the excessive vomiting could be stopped. The vomiting is best stopped by putting absolutely nothing in the stomach for twenty-four or thirty-six hours, and giving fairly large doses of morphia hypodermically.

ARTICLE IV.

The Insomnia of Neurasthenia.

Abstract of a Lecture Delivered at the New York Post-Graduate Medical School and Hospital.

By A. D. Rockwell, M.D., Professor of Electro-Therapeutics.

For the insomnia that is so frequently associated with neurasthenia, I know of no remedy, taking the cases as we find them, that offers so much in the way of relief as electricity. General faradization, a method which you have just seen practically illustrated, is sometimes of the greatest service. But in other cases, where every effort has proved unavailing, the galvanic current, properly applied, is often rapidly efficacious. This remedy has, in my hands, acted so well, that I may be allowed, in a few words, to emphasize the matter.

If a patient can be made to sleep without forcing measures, so much the better. But too frequently the administration of some sleeping potion is for a time unavoidable.

For the production of sleep, however, electricity is not a forcing measure, in the sense that we use the term, as applied to chloral, opium, and other internal remedies of their kind.

If it produces sleep on one night, and its application is omitted the next, the patient is none the worse, because of its administration, but is, on the contrary, more inclined to restfulness on the second night, *because* of the previous treatment. The effects of electricity on the sleep of a neurasthenic patient, whether used in the form of general faradization, franklinization, or galvanization of the central nervous system, are both temporary and permanent. The temporary relief that appears the night or two following an application, though usually less potent than those of bromide of potassium and hydrate of chloral, are yet very decided. But it is for the permanent relief that electrization is chiefly indicated in this symptom.

This comes, as a rule, gradually, slowly, and as a result of the improvement of the morbid condition on which the insomnia depends. In the use of the galvanic current, much depends upon the sufficiency of the treatment as regards strength of current, and the care with which it is administered. An illustrative case is sometimes more impressive than a mere statement of fact; not only as an example of the value of the treatment, but as descriptive of a method which has, according to my experience, proven more efficacious than any other.

A gentleman in the prime of life had for several years been a sufferer from many of the varied symptoms of neurasthenia, and finally for this cause alone resigned his partnership in an extensive and most profitable mercantile business. He travelled extensively and was treated in many cities, but without finding the relief that he sought. Finally insomnia of a most persistent type supervened, and for six months he never slept without the aid of either chloral, or the bromide of potassium, and even with these he had lately suffered many wakeful hours, when he should have slept. He finally resolved of his own volition to abandon all soporifics. For ten days he faithfully kept his resolve, but little sleep came to him, and he was forced to resort once more to chloral. Shortly after this he fell under my observation and was treated with the galvanic current accurately measured. Placing a large metal electrode (covered with a smooth layer of absorbent cotton, with a second covering of chamois skin) over the solar plexus, and a second large electrode of fine sponge over the cilio-spinal centre, an ascending current was applied.

Beginning with a few cells, the number was gradually increased without interruption, until a current strength of sixty milliamperes was reached and continued for eight or ten minutes.

The current was then as gradually decreased to zero. That night, without the administration of any internal remedy, the patient slept six hours, and on the second night, after a second similar application, he slept soundly for seven hours. To detail further the history of this case would be simply a repetition. He was under observation for one month, receiving somewhat similar treatment nearly every day. At the end of that time he found it necessary to go abroad on matters of importance, but the improvement in sleep that had been gained remained permanent. I gave him letters of introduction to prominent members of the profession in England, France, and Germany, fully describing the case and the method of treatment that had been adopted, but he found it unnecessary to make use of them.

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SELECTIONS.

Abernethy on Tumors.

It is a fault of the present age to ignore the work of preceding generations. We imagine that discoveries we have inherited from our fathers are really to be placed to our own credit. Thus a writer in a modern *System of Surgery* says of tumors: "Their anatomical classification was, a few years ago, little more than a suggestion*." Yet eighty years before this was written, John Abernethy had published in his monograph *On Tumors*† a new classification, which was a purely anatomical one, carried to as high a degree of perfection as was possible with the inferior histological knowledge and appliances at his command.

His system was eagerly adopted by his contemporaries as a great advance over all preceding ones. Even his initial definition of the word "tumor,"‡ though by no means perfect, was a real improvement over that of any previous author. They understood the word in its widest meaning of "a swelling," and included in their descriptions diseases of arteries, veins, glands, tendons, joints, and bones, which had really nothing in common save the one feature, with what we

* Holmes's *System of Surgery*, third edition, I. 243.

† "An attempt to form a Classification of Tumors according to their Anatomical Structure" (Abernethy's *Surgical Essays*, 1804, I. 1.)

‡ "Such swellings as arise from some new production which made no part of the original composition of the body." Abernethy, *loc. cit.*

understand to-day and what Abernethy understood by the word "tumor."

So widely was Abernethy's system accepted by his contemporaries, that it was not until many years after his death, and then only by a gradual process of replacement, that a clinical classification drove his anatomical one out of the field, to be in turn discarded in our own day in favor of an anatomical system not differing materially from his own.

Abernethy's theory of pathology was complete and attractive enough in itself; and it was perhaps the requirement of this theory which originally led him to attempt an anatomical classification of tumors. He began with an observation of John Hunter's,* "that the cavity" (of a certain abdomen) "being opened, there appeared lying on the peritoneum a small portion of red blood recently coagulated. This, upon examination, was found connected to the surface upon which it had been deposited by an attachment half an inch long, and the neck had been formed before the blood lost its red character." From this Abernethy concluded "that there can be little doubt but that tumors form everywhere in the same manner, the coagulated part of the blood being either accidentally effused or deposited in consequence of disease, become afterwards an organized and living part by the growth of the adjacent vessels and nerves into it. When the deposited substance has its attachments by a single thread, all its vascular supply must proceed from that part, but in other cases the vessels shoot into it irregularly at various points of its surface. Thus an unorganized concrete becomes a living tumor, which has at first no perceptible peculiarities as to its nature. Though it derives a supply of nourishment from the surrounding parts, it seems to live and grow by its own independent process. And the future structure which it may acquire seems to depend on the operation of its own vessels." † Abernethy goes on to remark that the tumor is in structure sometimes like, but more frequently unlike, the part near which it grows; and on this ground he comes to the same conclusion as that set forth in the last paragraph, namely, "that in many cases the nature of the tumor depends on its own action and organization; and that like the embryon it merely receives nourishment from the surrounding parts.

He explained malignancy by the following theory—"The effused coagulable part of the blood," which on his hypothesis, was the origin of all tumors, might be deposited from the effects of accident or from a common inflammatory process, or on the contrary it might be the result of some diseased action of the surrounding parts and vessels, which would influence the organization and growth of the consequent tumor. In the former events he saw the origin of all innocent tumors, in the latter of all malignant ones. Innocent tumors did not return after operation, because the parts surrounding being merely the source whence the new growth procured its nourishment, had no power of reproducing it when once it had been removed. While malignant tumors, being originally produced by the diseased action of neighboring vessels of tissues, was, upon removal, owing to a continuance of the same action, at once replaced, by a second unhealthy effusion, which had in general the further development into a fungous growth.

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* Related by Sir Everard (then Mr.) Home (*Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge*, I. 231).

† Abernethy, *loc. cit.*, pp. 8, 9, 10.

Misled by the classificatory craze of his day, which saw no difficulty in arranging the morbid products of disease in as complete and interdependent a system as that introduced by Linnæus into the kingdom of Nature, Abernethy classified tumors as follows:

Class: Local diseases.

Order: Tumors.

Genera: I. Sarcomatous tumors. II. Encysted tumors. III. Osseous tumors. IV. Cartilaginous tumors.

The first genus (sarcomatous tumors) he subdivided into eight species: 1. Common vascular, or organized sarcoma. 2. Adipose sarcoma. 3. Pancreatic sarcoma. 4. Cystic sarcoma. 5. Mastoid or mammary sarcoma. 6. Tuberculated sarcoma. 7. Medullary sarcoma. 8. Carcinomatous sarcoma.

By "sarcoma" and "sarcomatous," Abernethy, of course, only indicates tumors having a firm or fleshy feel, and these terms are most nearly represented in modern nomenclature by the expression "solid tumor."* They bear the relation to modern sarcoma of an original term of widest signification narrowed down in course of time by a gradual process of elimination, to a special significance which etymologically the word was never intended to bear.

Of Abernethy's "sarcomatous tumors," the "common vascular or organized sarcoma is represented nowadays by the word "fibroma," and his clinical description of the kind is admirably true and graphic. He believed this to be the original form of tumor produced by the organization of an effused clot, and was even inclined to think that all tumors are, in the first place, of this structure. His second species "adipose sarcoma," is of course the same as the modern "lipoma."

It shows how far Abernethy was in advance of his contemporaries and successors in close and accurate observation, that Chelius should write, so lately as 1847: "The pancreatic and mammary tissues are to be considered as accidental modifications of the medullary."† This is no doubt true of Abernethy's mammary sarcoma, but in his pancreatic sarcoma he was evidently describing "adenoma," the following characteristics being decisive. It was, in the first place, like the pancreas in appearance of structure, generally occurred in young adults, and most frequently in the female breast; although it sometimes caused lancinating pain and enlargement of neighboring glands,‡ it was most amenable to treatment, did not recur when removed, was encapsuled;

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* Excluding cartilaginous and osseous growths.

† South's Translation of Chelius *Surgery*, 1847, II, p. 648.

‡ When inflamed (?).

while any enlarged glands at once subsided after the tumor was operated on.

Abernethy draws a clear and just distinction between cysts and cystic degeneration, making of the former a distinct class, and placing the latter as one of the species of his solid tumors under the term "cystic sarcoma."

It is almost certain that, in his tuberculated sarcoma, he anticipated Wilks by nearly fifty years, and this species is the same as Hodgkin's disease. But by Abernethy's immediate successors, it was compared with quite other and distinct pathological conditions; they were not sufficiently observant to accept at its full value his careful diagnosis.

His remark on medullary sarcoma could be inserted in the most modern work (but only in the most modern work) on tumors: "The term cancer is objectionable, because it conveys an erroneous idea of the nature of medullary sarcoma; for this disease, though perhaps equally destructive, will be shown to be unlike cancer in its nature and progress."

Abernethy, then, deserves credit for having worked out an anatomical classification of tumors, which was far better than any which had preceded it, or rather was the first intelligent step in such a direction; and it was also a giant step, for his system will bear a very favorable comparison when viewed by the light of modern research with that of his successor South, or of Liston, and indeed comes nearer to our present classification than any previous one we know. His clinical observation was most accurate, and, with one exception (that of mammary sarcoma), every one of his species is accepted as a distinct one, even in the present fierce light of new histological processes and modes of research. His opinion that malignant tumors were of local origin is also in advance of his age. Yet few among us recognize this of Abernethy; we know him as a distinguished surgeon in his day, celebrated for brusqueness and impatience of manner, but occupying a larger space in our jest book than our system of surgery.

And this is one great loss we have sustained by modern methods of original observation and research. Up to the time of John Hunter, men were obliged to read and quote the works of deceased authors, back to the very earliest age, in order to procure acceptance for their own views and discoveries. This was destructive of all originality, but preserved from oblivion the name and fame of the mighty dead. To-day we neglect the works of our fathers in favor of those of our own contemporaries and immediate predecessors. Our students grow up with a pitying contempt for the benighted conviction of the elder writers on disease. They are accustomed to rely on original observations for knowledge and for success. And so science is the gainer, but the individual is the loser; our discoveries are either falsified or forgotten when we die, and our very name slips into the sea of forgetfulness.

Who will undertake the great task of research required to bring out the great successes of our forefathers, to write a history of medicine, if only in unfinished portions, and to replace such men as John Abernethy on the pedestal they ought to occupy in the Temple of Fame?

ON CASES TREATED WITH IPECACUANHA SPRAY AT THE WESTMINSTER HOSPITAL.—By William Murrell, M.D., F. R. C. P., London, England; Examiner in Materia Medica to the Royal College of Physicians; Lecturer on Pharmacology and Therapeutics at the Westminster Hospital.

The ipecacuanha spray was introduced as a remedy for chronic bronchitis and other diseases of the throat and respiratory organs in consequence of the reputed success attending the use of a nostrum both in London and Paris by an irregular practitioner. It was difficult to obtain any clue to the composition of this secret remedy, as, apparently, the proprietor varied the constituents from time to time in order to puzzle the analysts and escape detection. Some patients said that it was a clear, colorless fluid like water, whilst others were confident that it was yellow or red, or even blue. Some thought it was tasteless, whilst others declared they recognized the not unfamiliar flavor of dry sherry. They all agreed, however, that it was used in the form of a spray, and that its effects were little short of marvellous, a few inhalations affording prompt relief both to the cough and shortness of breath. It always loosened the phlegm, and frequently gave rise to copious, watery expectoration. It obviously belonged to the class of medicinal agents which we call expectorants, and as there was no reason to suppose that it was a rare or unknown drug, the sphere of investigation was considerably narrowed, for many remedies are obviously unsuited for administration by this particular method. A number of preliminary trials were made, which speedily demonstrated that, even if the specific were not ipecacuanha wine, that very useful domestic remedy entered largely into its composition, and that locally applied in the form of a spray, it was capable of affording relief to congested and irritated bronchial mucous membranes. Sometimes the ipecacuanha wine, pure or diluted with an equal quantity of water, was used with a small steam-vapor vaporizer, but more commonly the ordinary hand-ball spray apparatus, such as is employed for the production of local anæsthesia by ether, was preferred. A solution in spirit, made of the same strength as the wine, was found equally efficacious.

The following may be regarded as being typical of a number of cases which have been under treatment at the Westminster Hospital during the past six months:

I. Case (reported by Mr. E. Lucas Hughes, Clinical Assistant) showing the value of the ipecacuanha spray in bronchial catarrh.

David J., æt. 53 years, a cigar-maker by trade, has had a cough in the winter for twelve years or more. There is not much dust in his work and he is not exposed to wet or cold, but he has travelled a good deal and has known what it is to rough it. He has been to America fourteen times, to Australia, the Sandwich Islands, and many other places. He is fond of going about, and as he is a good hand at his work and can always get employment, he sees no reason why he should always stay in one place. The cough is troublesome, but is not paroxysmal. There are no bad attacks of cough, but there is a good deal of hacking, and this keeps him awake at night. There is very little expectoration, certainly not enough to give him any trouble. He has had no hæmoptysis, and has not lost flesh. On examining the chest the percussion note is found to be normal. Small râles are detected at the left apex in front, and at the right base posteriorly. The patient was given 15 c. c. of ipecacuanha wine, with an equal quantity of water, by a steam spray apparatus, and this was repeated on three successive days, the dose being gradually increased to 30 c. c. On the fourth day the hand-ball spray was used, and at the expiration of the week the patient reported that his cough had entirely left him and that he was practically well. On examining the chest no ronchus was found.

II. Case of chronic bronchitis and winter cough (reported by Mr. Hughes), illustrating strikingly the benefit which may frequently be obtained by the use of the ipecacuanha spray.

Francis P., æt. 58 years, has suffered from winter cough for the last twenty-five years. He gets rid of it for only a short time in the summer, and for the last thirteen years it has been not a winter cough, but a winter and summer cough as well. This year he has had it badly since the beginning of December. It comes on in fits, which often last ten minutes. He always has two or three bad bouts of it in the day-time and one or two at night. If they come on when he is out, he has to cling to the railings or hang on to anything that may be handy. The expectoration is always thick, and it may be yellow or white, sometimes streaked with black, especially in the winter. He has never brought up any blood, with the exception of a mouthful now and then. He gets short of breath, especially on exertion or after a bad fit of cough. His occupation is an unfavorable one, for he is engaged in heaving sacks of coal at the gas-works. He gets as hot as any man gets, he says, and then goes out or stands in a draught to "cool down a bit." This, he thinks, has tried his constitution. On examining the chest it was found that there was a little general emphysema, with sibilant rhonchus over the right front and back. Immediately the patient had been examined he was made to inhale a spray of equal parts of ipecacuanha wine and water. The Richardson's apparatus was employed, and the quantity of the diluted wine used was 5 c. c. The chest was then at once re-examined, and it was found that the sibilant rhonchus had entirely disappeared from the front and had almost gone from the back. After inhaling 10 c. c. more of the diluted wine the patient expectorated freely. At the expiration of five minutes, during which 35 c. c. had been sprayed, the abnormal signs had entirely disappeared from the chest. The patient came the next day and had another inhalation of 40 c. c. This was repeated on six consecutive days, when the patient reported that he was quite well. The cough had left him, there was no expectoration, the breathing was easier, and his appetite had returned. On examining the chest no ronchus was to be found.

III. The next is a fair specimen of an obstinate case of winter cough treated by the same method.

Mary A., æt. 32 years, came to the hospital on January 29th with a winter cough of many years' standing. She reports that it is worse this year than it has ever been before. It is paroxysmal, the slightest exertion, even talking, bringing on an attack. The attacks vary much in duration, but rarely last less than ten minutes. In the twenty-four hours she expectorates quite a teacupful of thick, yellow phlegm. She is extremely short of breath, is quite unable to do her house-work, and at night cannot sleep unless propped up with three pillows and a bolster. The breathing is worse at night, and fog increases all her troubles. She has been hoarse for weeks, and her voice goes if she attempts to talk. Her chest is very sore from coughing, and she aches all over. She is emphysematous, and the breath sounds are obscured by cooing râles. On February 3d the patient, who had an inhalation on five consecutive days, said she was better in every way. The breathing was easier, the cough was not so violent, her chest was not so sore, the expectoration was less, and the hoarseness had nearly gone. Three days later, the inhalations having been continued meanwhile, she reported that she was better than she had been all the winter. The improvement in her breathing is so great she can now do with only one pillow instead of three. She sleeps better, and there has been great improvement in the cough, which, instead of being aggravated at bed-time, is easier. Expectoration has almost ceased. On the 10th, having had no inhalation for three days, she complained that there was shortness of breath. On the 12th, after two more inhalations, it was better. On the 17th the note was: "Has had but one inhalation since last date. The cough has now almost left her, and she often goes twelve hours without a fit. Her breathing is so much better that she does her own house-work and is not propped up at night." She was discharged after ten inhalations and nineteen days' treatment. A month later she called and said that her breathing was all right, and that, with the exception of a slight hacking cough, she had been perfectly well since her discharge.

IV. The following is a case of fibroid phthisis, in which the ipecacuanha spray afforded prompt relief to all the prominent symptoms.

Fred L., a mason, æt. 29 years, came to the hospital on November 20th, and gave the following history: He had a cough last winter for the first time; it lasted from Christmas to June, but he was free from it during the rest of the summer. This year he has had it seven weeks. It comes on in paroxysms, four or five in the day, each lasting from five to ten minutes. The attacks are so severe that he has often to stop in the street and hold on to the railings. He is sick after a violent attack, and this has greatly reduced his strength. The expectoration is watery, not thick, and there is usually a pint or more in the twenty-four hours. He spat blood several times last winter, but only in small quantities. The loss of flesh has been considerable, and he weighs two stone less than he did twelve months ago. He is much troubled with shortness of breath, and has some difficulty in getting up-stairs. He lives only a mile from the hospital, but it is farther than he can walk, and he has to take the omnibus. His voice is getting weaker, and he is so ill that he has done no work, except an odd job here and there, for over a month. On examining the chest the signs of a dry cavity were exhibited at the apex of the right lung. He was given an inhalation of ipecacuanha wine on three consecutive days, and at his fourth visit he said that the cough was easier than it had been for many months. The sickness in the morning had left him, and he could walk with comparatively little difficulty, and even get up-stairs. He continued to improve under this treatment, although somewhat slowly, and after the sixth inhalation his chest was painted with iodine liniment over the site of the cavity. From this time he progressed much more rapidly, and at the expiration of a fortnight he was discharged, after ten inhalations, comparatively well. No other treatment was adopted.

V. The following case is of interest, as it serves to illustrate the beneficial effects of the ipecacuanha spray in loss of voice due to congestion of the vocal chords.

George E., æt. 51 years, an engine inspector on one of the railways, came to the hospital on November 27th complaining of hoarseness. He had been quite well, he said, until about three weeks before, when he had got wet through and had caught a bad cold. His voice had been gradually getting weaker, and for some days he had been unable to speak above a whisper. He kept at his work, but could not talk much, and had, as far as possible, to convey his meaning by grunts and signs. He had never been ill before, and hardly knew what it was to have a cough. He was a big, fine fellow, but looked the picture of misery from his inability to speak. His chest was carefully examined, but nothing wrong could be detected. On laryngoscopical examination the vocal cords were found to be swollen and congested. He was at once given an inhalation of ipecacuanha wine—two drachms and a half—by means of a steam spray apparatus, and immediately his voice became clearer and he could speak without much effort. He was unable to attend again until December 8th, when his voicc was worse and he could hardly speak at all. It appears that he had been to a smoking concert the night before, and could not resist the temptation to join in the choruses What between the smoke and the harmony he was almost voiceless. On examination it was found that the left ventricle bands were greatly swollen. He was given another inhalation of ipecacuanha wine, four drachms being used this time, and at once, as on the previous occasion, his voice became clearer. The next day he came again, and after another inhalation a still further improvement was noticed. He was given no medicine, with the exception of a purgative pill. On the 11th he had his third inhalation, four drachms again, and on leaving he declared that his voice was nearly restored. He took great pains to inhale thoroughly, and probably much of the ipecacuanha was absorbed. The next day he was still better, but reported that the spray had made him sick. He had another inhalation and did not return till the 22d, when he came to say that he was perfectly well and needed no further treatment. The vocal cords were examined and found to be healthy. He was discharged, cured, after five inhalations.

VI. In the next case hoarseness depending on congestion and ulceration of the cords, was relieved by a course of the ipecacuanha spray:

Emma V., æt. 30 years, single, a children's nurse, came under observation on December 4th. She stated that she had had a cough every winter since she was a girl at school. It troubled her most at night and frequently disturbed her rest. It usually came on in fits, and she could obtain no relief until she had expectorated a quantity of thick phlegm. She had been more or less short of breath for three years, and often experienced considrable difficulty in getting up-stairs. There was a little loss of flesh in the winter, but nothing very much. She had never had sweating at night, and there was no family history of phthisis. Her general symptoms troubled her very little, but she was much alarmed at losing her voice a fortnight ago. She speaks now in a guttural tone, and evidently with considerable discomfort and distress. She attributes her symptoms partly to having to get out of bed at night to attend to the children, and partly to the fact that she has to sing to them and also in a choir. On examining her chest she was found to have a little moist rhoncus at both bases. On laryngoscopical examination it was found that there was ulceration of the right cord, with congestion of both. She was given an inhalation of ipecacuanha wine by means of the steam inhalator, and an important improvement in the voice was at once apparent. The improvement, however, was only temporary, and the next day she was as bad as ever. She had eleven inhalations before there was any real improvement. Sometimes she had the spray from a Richardson's apparatus, and sometimes from the Siegle's, but she preferred the latter. She was kept under treatment until December 29th, by which time her voice was perfectly clear and all her symptoms had disappeared. At her last visit the chest was examined and was found to be free from rhoncus, whilst the laryngoscope showed that the ulceration of the vocal cord had disappeared.

Remarks.—Most successful results are obtained from the employment of the ipecacuanha spray in cases of chronic bronchitis and bronchial catarrh. In fibroid phthisis there is often a marked improvement even when no constitutional treatment is adopted. A single inhalation will sometimes restore the voice in cases of hoarseness due to congestion of the vocal cords. It is a matter of little importance whether the spray be given with a hand-ball spray apparatus or with a small steam vaporizer. In either case the spray must be warm, and the patient should not go out for some minutes after inhaling. Care should be taken to see that the spray really enters the chest, and is not stopped by the arching of the tongue against the wall of the mouth. The best results are obtained by using the spray for about ten minutes three or four times a day. In the majority of cases of winter cough relief will be obtained in ten days.

THE VALUE OF THE AMERICAN MEDICAL DEGREE IN LONDON.

There is a wide diversity between English and American medical educational methods. While the object of instruction in both countries is to give to the student, who, in course of time, becomes the graduate, a qualification which will enable him to practice the various branches of medicine and surgery, yet two striking differences in the instruction are observed in the necessary steps for obtaining, and the significance of such qualification. The American, after pursuing a certain course of medical study, can obtain but one degree. This degree of "Doctor of Medicine" gives him the right to practice his profession. It has but one interpretation. He has studied medicine, and has passed, at the conclusion of that study, certain examinations. The same degree in England has a different meaning. It is not essential for practice, as qualifications of a lower grade give that right. As both countries give the degree of "Doctor of Medicine," two questions naturally arise.

I. What is the comparative value of the degree ?

II. Is there "recognition" in England of the American degree, or in America of the English degree ?

It is to answer directly the first part of the second question, and indirectly the first question, that this letter has been written. An account of English medical instruction, and of the qualifications which English students obtain will contribute to a more thorough understanding of the answer to the above questions.

Let us therefore follow, for the moment, the career of an English medical student. We will suppose that he chooses one of the London schools. That school will not qualify him to practice. It will give him a certificate stating that he has been a student there, and it will be regarded by him as his medical Alma Mater. Before commencing professional study, he must pass the "Preliminary Examination in Arts" at either the College of Preceptors, the Apothecaries' Hall, or University of London, all of which are mere examining boards. Should he be a graduate of an English or a British University, or should he hold a certificate from various British or Colonial Colleges, stating that he has passed such examination, this "Preliminary" will be dispensed with. He must now decide what qualifications he intends to take, and before what examining boards he will appear. He may choose from some fifteen boards. We will however dismiss from discussion all but three : University of London, and the two Royal Colleges. For general practice our student would take the examinations necessary to receive the diplomas of the License of the Royal College of Physicians of London, and the Membership of the Royal College of Surgeons of England. These examinations are given by the "Conjoint Examining

Board in England" of the two Colleges. This union, dating only from 1884, relates to the above diplomas, and does not exist for other examinations. Our student is now a "Licentiate" of one college—"L. R. C. P."—and a "Member" of the other—"M. R. C. S." In order to obtain these diplomas, he has studied four years. Suppose he enters at a medical school in October, 1888. In April, 1889, he passes the examination in elementary anatomy and physiology. In July, 1889, he passes the examination in physics and chemistry. In April, 1890, he passes the examination in anatomy and physiology. In July, 1890, he passes the examination in materia medica and pharmacy. In July, 1892, he passes the examination in medicine, midwifery and surgery. He may now practice any or all branches of his profession. No further qualification is necessary, and many men do not take the higher examinations. The student, whose career has thus far been traced, is known to the laity as Mr. A., "a medical man."

Should he now desire to practice surgery with a higher qualification, he will endeavor to obtain a Fellowship in the Royal College of Surgeons. Two examinations are necessary for this: The "primary" examination in anatomy and physiology; the "pass" examination in medicine, midwifery, surgery, surgical anatomy and pathology, examination of patients, and operations upon the dead body. Certificates must be presented, showing that a course of operative surgery has been taken, and also that there has been an additional course of hospital study. Under certain conditions exemption from the examinations in medicine and midwifery can be obtained. This fellowship is the highest surgical qualification. If the student intends to practice medicine or midwifery, he will take the examinations for membership in the Royal College of Physicians, the highest qualification in England, making the holder eligible for election to the high and honorary position of a Fellow.

Thus far we have spoken only of diplomas and licenses. There are various medical and surgical degrees that can be obtained. The University of London confers four degrees; Bachelor of Medicine; Bachelor of Surgery; Master in Surgery; Doctor of Medicine. Those who desire the higher degrees generally take the various examinations necessary to obtain them either with or soon after their examinations at the Royal Colleges. Four examinations are requisite to obtain the degree of Bachelor of Medicine. The candidate for the degree of Doctor of Medicine must have passed his Bachelor examinations and must have spent *five* years subsequent to that in study or practice, making *nine* from the commencement of his medical studies.

This then is the English student's career. An American graduate studying in England would gain but little in taking the University examination, but he might wish to take one of the diplomas of the Royal Colleges. In order to ascertain the relation of American medical schools to the Royal College of physicians, and also the value of the American degree in London, an introduction was obtained from a Fellow, Dr. J. Mitchell Bruce, to Sir Henry Pitman, Registrar of the College.

The following questions were asked of Sir Henry:

I. Can American physicians, without British qualification, practice in London?

II. Does the Royal College "recognize" any American medical school?

III. What examinations must be passed in order to become a Licentiate?

The answers to these questions, taken in order, are as follows:

I. The imperial Parliament of Great Britain, by an Act passed in 1886, decided that foreigners, who in their own land were qualified practitioners, might practice in London, (England) upon registration and payment of five guineas. They would then be classed as "Foreign Medical Practitioners." They must show that when they obtained their degree they were not British subjects; or if so, were living under foreign government.

II. The Royal College "recognizes" no American school.

(By this it will be seen that no examination passed in America is considered equivalent to an examination passed in England, and that, in a strictly official sense, no one American college possesses any advantage, but that they, one and all, are in the same class).

III. The examinations which must be taken would depend upon the candidate's acquaintance with some Fellow or Censor of the College. If some physician in high repute would personally testify as to the candidate's preliminary work, and give some information relative to his medical school, he would be given an examination, if he had received his degree previous to 1884, in medicine, midwifery and surgery. If his degree had been received subsequent to 1884, he must take in addition the anatomy and physiology examinations. If unknown and with no one to vouch for him, the candidate must take the full examination described above.

In conclusion it may be said that, with the single exception of the examination for membership in the Royal College of Physicians, the standard of scholarship in Great Britain is not in reality higher than the standard required at the final examinations, given by the Faculties of those American Colleges which, to their theoretical teaching, have added a course of thorough and scientific practical study.

London, May 1, 1888. HENRY CONKLING, M.D.,
Correspondent of the Brooklyn Med. Jour.

NOTES ON THE PAST AND PRESENT MORTALITY AND TREATMENT OF PNEUMONIA.* By Henry Hartshorne, M. D., of Philadelphia.

Observation and experience, beginning more than forty years ago, along with such attention as has been within my power to current medical literature, have made me acquainted with a process of transition going on in medical practice, especially in regard to the treatment of acute inflammatory affections, of which pneumonia may be considered as a type. Between 1845 and 1855, the accepted treatment of pneumonia was what was then called moderately antiphlogistic; including early and moderate abstraction of blood in patients of good strength and not over middle age, early purgation with some active cathartic medicine, and then the use of agents, chiefly mineral salts, to promote and maintain the action of the skin, kidneys, and bowels; very little use of opium being made, unless at a late stage, and quinine being reserved for that period as a tonic; alcoholic stimulation being resorted to only in cases of exceptional prostration, as in aged patients, or in those of enfeebled constitution, or when a severe and prolonged attack brought on decided exhaustion.

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*Abstract of a paper read before the College of Physicians of Philadelphia, February 1, 1888.

Under this treatment, in private practice, patients with uncomplicated pneumonia and pleuro-pneumonia very generally recovered; and in hospitals their mortality was hardly more than one death in ten cases; often considerably less than in that proportion. In Suffolk Hospital, England, in 1835, it was only one death in fifty cases.

Between 1855 and 1860 a movement of reaction went on against bloodletting, in which Dr. J. Hughes Bennett was one of the most conspicuous leaders. This was shortly followed, in part, indeed, accompanied, by the introduction, under the leadership of Dr. R. Bentley Todd, of the early and free use of alcohol in pneumonia and other acute inflammatory diseases. Next came the era which still continues, of physiological rationalism in therapeutics; characterized by a general abandonment of previously approved principles and methods, and the substitution for them of the use of potent agents upon special indications in regard to functional actions and conditions, these agents being first tried in the laboratory upon animals, either in a state of health or in various conditions of traumatism. Prominent among the agencies thus lately much used in practice are those designed, as "apyretics," directly to lower the temperature of the body when it is abnormally elevated in disease.

The "working theories" of practice in acute inflammatory diseases have thus, with very little appearance of distinct formulation, undergone a gradual, but very positive change. To-day the predominant method of treatment of pneumonia may be said to be characterized by the following features: 1, the practically universal omission of venesection, and the very rare local abstraction of blood; 2, the general disuse of active cathartic medicines in the early stage; 3, by many, perhaps a majority of physicians, the early and continued use of alcohol, to the extent of from two to twelve or more fluid ounces in twenty-four hours; quinine, mostly in ten or twenty grain doses, once or twice daily; opium, or morphia, from the start or near it, averaging perhaps sulphate of morphia gr. $\frac{1}{12}$ to gr. $\frac{1}{8}$, every three or four hours; with deviations from this general plan, or additions to it, by the use of antipyrin, antifebrin, aconite, digitalis, etc.; and warm applications, as poultices, or cotton batting to the chest, or counter-irritation with turpentine, etc.

These last may be said to be common to the old and the new methods of treatment.

For definite information sustaining this account of now predominant practice, I refer to Hospital Notes, published last year, of hospitals in New York, Boston, and Philadelphia; also, memoranda furnished me during last year by a resident physician in one of our largest and best hospitals; and the *dicta* concerning treatment, of Dr. A. L. Loomis, in his article on "Croupous Pneumonia" in vol. iii. of the *American System of Practical Medicine.*

It is entirely legitimate to apply to these old and new, different, and in some respects opposed, methods of practice, careful *reasoning* as to the principles upon which they are based. Considerable attention is given to this kind of comparison in the paper of which this is an abstract. Yet it is also appropriate, and is more nearly decisive in importance, to bring to bear upon them the testimony of *facts* concerning the *results* of the different modes of treatment which are compared. It is true that an absolute demonstration of therapeutical conclusions by means of statistics is not often practicable. My opinions on this subject have not been founded upon statistics, but upon direct personal experience. But, when evidence of that kind, of a marked character and considerable in amount, can be adduced, it is manifestly worthy of careful attention, even when the conclusions to which it points are different from those which, in practice if not in theory, are in vogue, and which are approved by highly respected authorities, at the present time. Such evidence it is the principal purpose of my paper to bring forward, and to apply to the question, how we ought to treat acute, uncomplicated pneumonia, in patients of ordinarily good constitution, not over middle age.

From sources and authorities which will be admitted to be reliable, and which are referred to in full in the paper of which this is an abstract, I have obtained and analyzed statistics, of which I will now give a summary account. I will say that throughout my analysis of these statistics, I have made liberal allowance in favor of that construction of the facts which is most opposed to the conclusion which my judgment approves. On behalf of the latter, a much stronger case might be made out, if my aim were anything other than the actual truth.

First, a comparison is made of the results of different modes of treatment of pneumonia, within a few years prior to 1858, reported by between forty and fifty physicians, of 11,627 cases in Great Britain and Ireland and on the continent of Europe. Of these, 2751 cases were treated with bleeding, and 8876 without it. Among the latter, however, 452 cases had exceptional modes of medication in the use of chloroform, lead, copper or iron. Deducting these, the comparison rests between 2751 cases treated with, and 8424 cases without bleeding. The figures, in summary, are these:

With bleeding, either often, a few times or once, with or without tartar emetic, altogether, one death in 11.1 cases.

Without bleeding, under all treatments except with opium—except, also, with chloroform, copper or iron, as before said—1 death in 9.7 cases.

Large and repeated bleedings, alone, 1 death in 11.6 cases.

Bleeding a few times, or moderately, alone, 1 death in 12.3 cases.

Bleeding and tartar emetic, 1 death in 12.56 cases.

Tartar emetic, no bleeding, no opium, 1 death in 11.3 cases.

Opium, without bleeding, 1 death in 3.3 cases.

Tartar emetic and opium, without bleeding, 1 death in 3.8 cases. I would call attention especially to these last figures, for the greatest mortality obtained under any method was that under the opium treatment of pneumonia.

Next, I present a comparison of mortality from pneumonia in the United States Army, at two periods: one before the anti-bloodletting movement had fairly set in, and the other, when it had begun to make a decided impression upon general practice. Between 1840 and 1854 there were, in the United States Army, 1416 cases of pneumonia, with 127 deaths—1 in 11.15; between 1855 and 1859, 657 cases, with 97 deaths—1 in 6.67, an increase of more than one-third in the proportion of deaths.

The testimony of Dr. George B. Wood, in the first edition of his *Practice*, published in 1847, was decided as to the favorable prognosis of uncomplicated pneumonia, especially in early life. Dr. Lewis P. Gebhard, of Philadelphia, whose practice began near the beginning of this century, and was extensive for many years, told me, near the end of his life, that he had never lost a case of simple pneumonia.

Examining the records of the Pennsylvania Hospital, as a representative institution, with a medical staff excelled by none in reputation and ability, I have found the results to be as follows: in the three years, 1845, '46, and '47, from pneumonia and pleuro-pneumonia, 1 death in 16 cases—6¼ per cent.; in the years 1865, '66, and '67, 1 in 54/10th, or 18½ per cent.; in 1884, '85, and '86, 1 in 3.2, or more than 31 per cent. To make sure the avoidance of the error of confounding cases of acute tuberculosis with pneumonia, in this comparison, I invariably took only those fatal cases in which the diagnosis of pneumonia was entered at the time of the *death* of the patient. In collating some other statistics of the same hospital, which were cited in the discussion upon my paper in the Philadelphia College of Physicians, I believe this precaution was not taken; and hence a greater mortality was inferred, throughout the time investigated.

Dr. A. L. Loomis, in his article on "Croupous Pneumonia" in the *American System of Practical Medicine*, states that the average ratio of deaths from pneumonia to those from all diseases together, in New York, was 15.2 per cent. greater between 1859 and 1877 than between 1840 and 1858.

Other figures are given more fully, with references to their authorities, in my paper. The figures may be altogether summarized thus: first, all prior to, or not later than, 1858.

Skoda estimated the average mortality of pneumonia, about 1841, as 1 death in 8 cases. Balfour, near the same time, reported his observation in a homœopathic hospital under Fleischmann (treatment probably *nil*) of a mortality of 1 death in 6⅓ cases. Dietl, with diet only, no bleeding nor medication, 1 death in 13.5 cases; in the British army, at home and in various stations, average of all together, 1 death in 20.66 cases; hospitals in a number of different cities in Europe, from 1822 to 1856, average 1 in 9.54; United States army, as already said, from 1840 to 1854, 1 in 11.15; Pennsylvania Hospital, as before mentioned, 1845, '46, '47, 1 in 16. Taking all these together, it is safe and fair to estimate the average mortality of pneumonia, during the second quarter of this century, as not more than 1 death in 12 cases, or 8.33 per cent.

Coming now to the recent and present mortality of the same disease, we find it editorially stated in the *Medical News* of December 11, 1886, that "the rate of mortality" of pneumonia "in the large general hospitals in this country is rarely below, more often above, 25 per cent., which represents about the average death-rate from this disease in the Northern and Southern armies during the Civil War." It is added that "in this country extensive statistics of pneumonia in private practice are not available; but in the recent returns of the Collective Investigation Committee of the British Medical Association, the mortality was 18 per cent." This last ratio, it will be perceived, is considerably more than double the carefully computed mortality of pneumonia before 1858, namely, 8.33 per cent. We have thus, I think, a *demonstration* of the large increase in the proportion of deaths from that disease in recent times over what it was thirty, forty and fifty years ago.

How is this increase of mortality to be accounted for? Three hypotheses are conceivable.

1. The records may be supposed to have undergone modification through improved methods of diagnosis. There is no ground for this supposition. The physical signs, as well as the symptomatology, of pneumonia were well understood forty and more years ago by those physicians whose reports have furnished materials for the statistics which have been cited. The use of percussion in aid of diagnosis dates with Auenbrugger, 1761; auscultation began with Laennec, about 1818.

2. "Change of type" of the disease may be asserted, or a general change in the constitutions of men, affecting the character of all diseases. Reasons are given in my paper for believing that neither of these hypothetical assumptions has such support in facts as at all to meet the requirements of the case. While at all periods it may be sometimes sthenic, and sometimes asthenic or typhoid, pneumonia is practically the same disease that it was forty or fifty years ago.

Lastly, therefore, we are brought to dwell upon the coincidence between this great increase in the mortality of pneumonia and a marked change in prevailing methods of treatment.

What has brought this change of treatment about? Is it a better knowledge of the pathology of pneumonia? No. Autopsic and microscopic investigations have cleared up certain minutiæ, as to the distinction, for example, between croupous and catarrhal pneumonia. But we still have, as ever, the first stage of congestion, and the second of red hepatization of the lung; in other words, primary *stasis*, with interrupted nutrition, at the focus of inflammation; concentric hyperæmia there, and general vascular excitement of the system; then exudation, whose changes chiefly determine the result—at least, so far as the lung is concerned. The increased vascular tension following a local obstruction to the circulation gave the indication for measures of relief in the older practice; and that *indication* still remains in the presence of the most advanced researches as to either the cause or the minute morbid anatomy of pneumonia.

Attention is given in my paper at length to the opinion now entertained by some pathologists that pneumonia is a systemic fever, with lung changes as merely its local manifestations, especially in connection with the theory of the microbic causation of the disorder. Jaccoud, in France, and Dr. H. B. Baker, in Michigan, are cited as having not long since* given *demonstrative* evidence that the essential, necessary cause of pneumonia *cannot* be microbic, dry cold having the most to do with its production in at least much the larger number of cases, while the bacilli and micrococci often found present may no doubt exercise a morbid action affecting the character of the disease. If, however, it were even proven that pneumonia depends upon microbes for its causation, that would not decide the question of its treatment, while we are not in possession of direct and certain microbicidal measures of therapeutics.

By all these considerations we are led at last to the conclusion that the change in practice that has been referred to has no other origin than a fluctuation of opinion, not justified by facts or reasoning, concerning certain principles in therapeutics. This fluctuation involves:

1. A depreciation of the value of the early abstraction of a moderate amount of blood, locally or by venesection, for the relief of active inflammation in persons of good previous health and not advanced in age.

2. A like depreciation of the utility of early catharsis, especially as an eliminative agency, to prevent the accumulation in the system of the products of retrogressive metamorphosis of the tissues.

3. The same want exists of due valuation of salines, formerly called refrigerant medicines, for lowering blood-pressure and promoting the functional activity of the skin and kidneys, as well as the bowels.

4. An erroneous, exaggerated estimate prevails of the beneficial influence of large doses of quinine, employed for the reduction of temperature. Testimony is accumulating as to the failure of the use of

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* Jaccoud's paper was communicated to the Académie des Sciences, and was reported May 7, 1887, in *La France Médicale*. Dr. Baker's investigations have been made public in several places within a year or two.

quinine in antipyretic doses in the treatment of pneumonia. Drs. Bartholow and Osler, in Philadelphia; Drs. Kinnicutt, Ripley, Putnam Jacobi, Castle, Billington and Emmett Holt, in New York; and Drs. Shattuck and Minot, of Boston, are among those who dissent from the now common approval of this point of practice.

5. An especially injurious error consists in the administration of opium and morphia at an early stage of pulmonary inflammation. The tendency of opiates to *diminish bronchial secretion* stands right in the way of their utility in pneumonia. I may here recall the statistical fact, mentioned a little while ago, that in the reports of results of different modes of treatment before 1858, the worst record of all was attached to the opium treatment of pneumonia.

6. An experimental administration is now being carried on of antipyrin, antifebrin, etc., as antipyretics, whose results do not correspond with what is desired of them as remedies for acute organic inflammation. They have another rôle, as neurotic medicines, in which they possess much value. I may remark incidentally, as an example, that in Dr. Pepper's interesting case, reported in the *Medical and Surgical Reporter* early in last year, it appears to me probable that it was the *neurotic* element in the case—the strongly marked tendency to convulsions—that received benefit from the antipyrin used rather than the pneumonia itself.

7. The practical ignoring must be noticed, in recent therapeutics, of the important difference between the debility of *oppression* in the early period of severe attacks of acute disease, and the *exhaustion* which belongs to a later stage of the same, or which is produced by other causes and conditions. The *treatment* of these two states, as was long ago recognized, is properly quite different.

8. Connected with this, the early and free use of alcohol is now common. In my judgment, except in previously enfeebled patients or those otherwise exceptionally prostrate, this is an injurious medication in pneumonia. Heart-failure during the early stage, in patients of previously good health, may be best averted by so lightening the burden of oppression imposed upon the heart, as to make it possible for it to carry its load without exhaustion. It is under a prevailing so-called "supporting" treatment that not a few men in the prime of life have, within a few years, dropped off under less than a week's illness with pneumonia.

The relief often afforded by bleeding, without consequent exhaustion, even at a somewhat late stage, to the condition characterized by distension of the right heart (this being a practice approved even by many physicians who are otherwise opposed to bloodletting) should be remembered and set over against the excessive fear entertained by some of the production of debility by early bleeding.

I conclude, then, that there is reason for the judgment that the now current "working theory" of the treatment of pneumonia and allied affections, by early and continued stimulation and narcotism, is not supported by the facts concerning the results of that treatment, as compared with those of the *moderate*, *early*, sedative and eliminative practice of forty and fifty years ago.

I do not assert that venesection is called for in nearly all cases; but I believe that early local depletion will do good in the majority, in patients not old, and who were previously in good health; and that early active catharsis, with diaphoretics and diuretics afterward, are rightly in place: quinine as a tonic, and alcohol as a stimulant, being indicated only exceptionally at the beginning, in persons of low vitality or bad habits, or old age; more often, when real exhaustion is imminent, at a late stage.

There is more room for question, on the basis of experience, between the older practice and pure expectancy, nursing the patient in bed without medication, than there is between the therapeutic methods now current, in regard to acute inflammatory affections, and those of the early part of this century. We want no return to any Sangrado extreme; but only to replace in their position of confidence, lost for a time, some of those measures of practice which have been abundantly tested and commended by the experience of ages.

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CLINICAL RECORDS.

THE RECURRENCE OF PAROVARIAN CYSTS AFTER SIMPLE PUNCTURE. By M. Terrillon, Paris.

In a rapid review of the subject, it was established that MM. Panas and S. Duplay's observations in support of the definite cure of these cysts by simple puncture referred to tests which had not been followed long enough. Kœberle first, and then MM. Lucas-Championerre, Terrier and Polaillon maintained that simple puncture was most often only palliative, and that ovariotomy had to be resorted to. This was also M. Terrillon's opinion, and he supported it by seven observations of his own, by the results of the *résumé* of observations published up to the present, made in a thesis by one of his pupils. In all his observations M. Terrillon, from the fluid analyzed, showed the characteristic composition, limpidity, little solid residue and absence of free albumen.

Obs. I. *Parovarian cyst. Two punctures. No return six months after.* Woman æt. 51. Observed the tumor two and a half years. Sept. 5, 1883, puncture; gave 13 litres of pale yellow fluid. Oct., 1885, a second tapping gave 11 litres of the same liquid. Six months afterwards, no appreciable return.

Obs. II. *Parovarian cyst. Two punctures. Recurrence probable.* Puncture. Apparent cure for seven or eight months. Second tapping October, 1884. On recent examination, a slight commencing tumefaction.

Obs. III. *Parovarian cyst. Puncture. Return. Ovariotomy. Cure.* Woman æt. 24. The tapping gave 8 litres of limpid liquid. Return in fifteen or eighteen months. Ovariotomy. No adherence; no pedicle; peeling off from the broad ligament easy enough; Fallopian tube and ovary removed with the cyst. The intra-abdominal wound was constricted by suture with several threads and left in the abdomen. The patient left the hospital quite cured in five weeks.

Obs. IV. *Parovarian cyst. Puncture. Return. Ovariotomy. Cure.* Woman æt. 32. Puncture. Return in twenty-two months. Ovariotomy. Operation rather difficult; had to give up the removal of the whole sac; the borders of the part left sutured to the abdominal wall. It retracted so rapidly that the patient left cured on the twenty-fifth day.

Obs. V. *Parovarian cyst. Puncture. Return. Ovariotomy. Cure.* Woman æt. 31, married. After the second tapping, examination of the abdomen revealed the existence of a second cyst and of uterine fibrous bodies. Another recurrence took place, when ovariotomy was performed and the patient cured.

Obs. VI. *Parovanian cyst. Two tappings. Return.*

Obs. VII. *Parovarian cyst. Puncture five months ago. No actual return.*

In considering these observations with all those published, which do not give more than ten or twelve cures by simple punctures in cases which have been watched for a long enough time, one may say that in parovarian cysts cure by simple puncture is rather the exception and recurrence after the tapping the rule.

M. Desormeaux has been able to observe sufficiently long three patients who have remained cured of parovarian cyst; two after puncture and iodized injection, and one by spontaneous inflammation and disappearance.

M. Terrier had seen but one case of cure after puncture, and M. Terrillon's communication only confirmed his ideas. He was astonished at hearing of parovarian cysts included in the broad ligament. Neither himself nor MM. Lucas-Championerre and Perrier had met such; there was always a pedicle more or less broad.

M. Terrilon: The cases of inclusion in the broad ligament are very rare, but there are examples in the work of Hegar and Kaltenbach.

M. Terrier remarked that some patients remain cured for years after puncture of a large cavity of a multilocular cyst. He had operated three years after puncture on a dermoid cyst of the ovary, the patient having had two children in the interval. He had several times seen a multilocular cyst remain stationary after puncture; there is generally in these cases a large cavity and a small polycystic mass.

M. Th. Anger had twice performed ovariotomy for parovarian cysts refilling after puncture. One of the patients was cured, the other died. In the last the ovary, quite distinct from the cyst, was left in the abdomen; it became inflamed, severely painful, and at the autopsy was found peritonitis and a suppurating ovaritis.

M. Chauvel had seen again this year a patient who had been tapped in 1882 for a parovarian cyst, and who presented no trace of a return. She was before the Society in July, 1882.

M. Polaillon, in 1880, punctured a parovarian cyst which gave 8 litres of pure limpid liquid. The woman seemed cured for three years, then abdominal pains came on, and ovariotomy was performed five years after the puncture. The cyst was sessile and not included in the broad ligament, the base could not be removed, and was sutured to the abdominal wall. The patient was cured by suppuration and retraction of the cavity.—*Annals of Surgery.*

On the Use of Codeine to relieve pain in Abdominal Disease.—By T. Lauder Brunton, M. D., F. R. S., Lecturer on Materia Medica and Therapeutics, and Assistant Physician, St. Bartholomew's Hospital.

I had intended to bring the subject of this paper before the British Medical Association at its last meeting, but I was unfortunately prevented from attending, and delayed publication of this paper for several reasons, one of which was the desire to obtain a larger experience of the utility of the drug. The relief of pain may be classed next to the saving of life, and must perhaps sometimes be even put before it as the chief duty of the physician. As yet no drug has taken the place of opium as a general analgesic, though the use of crude opium is now frequently replaced by the subcutaneous injection of morphine, the most active of the alkaloids it contains. In abdominal pain many practitioners still have a preference for the use of opium, as compared with that of morphine, and this very preference is sufficient to make one ask whether it may not have some foundation in the presence of other active principles along with morphine in opium, and if so, to inquire which active principle it is that helps to allay pain.

Thanks to its recommendation by Dr. Pavy, codeine is largely used in the treatment of cases of diabetes, but at present its use is almost confined to this disease, and it is rarely employed for other purposes, excepting perhaps for soothing cough or irritation in the throat.

Codeine was discovered by Robiquet in 1832, and two years afterwards its action was tested upon himself by Gregory,* who found that instead of causing sleep, it rather caused excitement, and had also a slight laxative tendency. It was applied therapeutically by Barbier† in 1834, who noticed that it seemed to have a special action upon the sympathetic system, and found that it was of great use in lessening pain in persons presenting symptoms of irritation in the solar plexus. Such symptoms are pain in the epigastrium, spreading to the sides and back, and associated with a feeling of burning, anxiety, depression,

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*Gregory, *Journ. de Pharm.*, February, 1834.

†Barbier, letter to Acad. de Méd. *Schmidt's Jahrb.*, vol. ii, p. 267.

more or less tenderness of the epigastrium, with sighing, lack of energy and tendency to faint. Occasionally the pain may cause symptoms of collapse, palpitation, and vomiting. In such cases Barbier gave a grain of codeine in a tablespoonful of syrup, and repeated it if necessary in one or two hours with the best results. From his observations he came to the conclusion that codeine acts chiefly upon the sympathetic nervous system, and especially upon that part of it which is in the region of the stomach; that it is a most useful remedy in abdominal neuroses depending upon disordered condition of the nervous plexus in the abdomen, and especially those in the gastric region; that it does not disorder the digestion, and rather aids than interferes with the action of the bowels. He found also that it produced sleep with tolerable certainty, and that this sleep was never followed by heaviness in the head or stupidity, but, on the contrary, persons who had taken it felt happy, and were disposed to be cheerful on awaking. About twenty years later, in 1856, Robiquet's * son undertook some observations on the action of the drug which his father had discovered. The results he obtained, however, did not quite accord with those of Gregory or of Barbier, and it is possible that the discrepancies may have been due to more or less impurity in the drug employed. In large doses he found that it caused an unrefreshing sleep, followed by a period of confusion of thought; occasionally nausea and vomiting were produced. In small doses he found it of great service in hypochondriasis, relieving nervousness, irritability, and all the discomforts from which patients affected with this disorder are apt to suffer.

Shortly afterwards Berthé † made a much more full and complete investigation of the physiological action of the alkaloid. Amongst other things he confirmed Barbier's observation that it had a specific action upon the sympathetic, and found that it lessened the irritability of the intestine to such an extent that a dog which had received 15 grains of arsenic along with 7½ grains of codeine exhibited neither vomiting nor purging, nor any other symptom excepting drowsiness, while another dog which had received a similar dose of arsenic without the codeine began to suffer in the course of an hour from severe pain, vomiting and bloody diarrhœa, and indeed presented well-marked symptoms of arsenical poisoning, although it ultimately recovered. These experiments suggested the idea to me that codeine was likely to be of service in abdominal pain, and I proceeded to try it, with very satisfactory results. The class of cases in which I have used it is, I think, somewhat different from those in which it has previously been recommended, because while Barbier, Aran and others have chiefly employed it in gastralgia and painful disorders of the stomach, I have used it chiefly in pain affecting the intestine and lower part of the abdomen. The kinds of cases in which I have used it have been very varied. As examples I may shortly describe one or two. In one case which I saw with Dr. Eccles, there was high temperature, intense

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*Robiquet, *Gaz. des Hôp.*, 1856, xxix, 517.

†Berthé, *Moniteur des Hôp.*, 1856, iv, 596, 601, 692, 1052.

pain in the right iliac fossa, with considerable swelling, so that there could be little doubt that there was inflammation around the cæcum, although examination after the acute symptoms had subsided showed that there was also pelvic cellulitis. In this case one grain of codeine, given in the form of a pill, relieved the pain at once, and repetition of the dose whenever the pain began to return prevented its becoming at all severe.

In another case, seen with Dr. Philpot, of Croydon, a lady, æt. 50 years, had pneumonia of the right base, a greatly dilated heart with very irregular action, pulse so rapid and weak that it could hardly be counted, and pain over the epigastrium and spreading out from it. She was slighly jaundiced, and a tumor was felt in the right lateral abdominal region, which descended with respiration, but was partly covered by intestine, and could be moved from side to side, so that it seemed to be renal rather than hepatic. As no *post-mortem* examination was obtained the exact diagnosis could not be established, but the administration of codeine in half-grain doses releived the pain, as Dr. Philpot said, "as if by magic."

In another case, seen with Dr. Pardington at Tunbridge Wells, there was pain in the abdomen depending upon a mass of impacted fæces in the transverse colon. In this case codeine seemed to be especially indicated, as one wished to relieve the pain without interfering with the action of the bowels. In grain doses codeine relieved the pain, and the use of copious enemata, aided by washing out the stomach, cleared away the impacted mass which had given rise to the disturbance. I have tried codeine in cases of long-continued abdominal pain for which no definite cause could be assigned, as no tumor could be felt, and the functional disturbance did not seem sufficient to warrant a diagnosis of malignant disease. I have tried it in cancer of the liver and pancreas with success in relieving pain, and also in numerous cases where the age of the patient, the presence of diarrhœa, tenderness on pressure, and visible peristaltic movements, and thickening of the gut, easily perceptible on palpitation, led to the diagnosis of malignant disease in theintestine, although inability to obtain a *post-mortem* examination prevented a confirmation of the diagnosis. In such cases I generally begin with a half grain, in the form of a pill made up with extract of gentian, three times a day ; and if this is insufficient to control the pain I increase the dose to a grain, and give it as frequently as seems necessary. As a rule, I find that it does not produce drowsiness, nor has it interfered with the digestive functions.

To sum up, the results I have obtained from the administration of codeine have satisfied me that it has a powerful action in allaying abdominal pain, and it can be pushed to a much greater extent than morphine without causing drowsiness or interfering with the respiration or with the action of the bowels. It is, therefore, specially indicated in such a case as Dr. Philpot's which I have already mentioned, where the dilated heart and consolidated lung tended to make one afraid of morphine. Codeine is also specially indicated in a case like

Dr. Pardington's, where one wished to relieve the pain without interfering with the action of the bowels. On the other hand, in cases where there has been much diarrhœa, as in some cases of malignant disease of the colon or rectum, the absence of any tendency to lessen peristaltic movement is rather a disadvantage to codeine as compared with morphine or opium.

I found that in cases of long-continued enteralgia without organic disease, it has continued to relieve pain for months together, without the dose being increased beyond one grain three times a day, and I found the same to be the case where the presence of a tumor, in addition to other symptoms, had led to the diagnoses of malignant disease.

It is interesting to follow the vicissitudes of a drug, and to notice how its use extends or diminishes until at last it finds its right place and maintains it. Thus digitalis, while mentioned in the London *Pharmacopœia* of 1721, was excluded from that of 1746. It again appeared in 1788, and since then it has held its place.

Possibly codeine, after falling into almost complete disuse as an analgesic for many years may again regain a more or less important place amongst the remedies which enable us to relieve pain.

SIX CASES OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.* By C. K. Mills, M. D., and W. C. Cahall, M. D.

Of the six cases briefly detailed in this communication, five were observed at the Falls of Schuylkill, Philadelphia, and one in the southwestern portion of Philadelphia. At the Falls of Schuylkill several other cases have recently been observed, and it is interesting to recall that it was in this neighborhood, during 1864 and 1865, that the disease was widely prevalent and very virulent. In the first case an elaborate autopsy was made, which gives the case a distinct scientific value; in the other cases, certain special points of interest make them worthy of being recorded. They are reported briefly so as not to load the paper with unnecessary details. The first four cases occurred in the practice of Dr. Cahall, and two of them were seen by Dr. Mills in consultation; the fifth was a patient of Dr. J. Y. Kelley, of Manayunk, Philadelphia; the sixth was a patient of Dr. J. W. Dick, and was seen several times by Dr. Mills in consultation.

Case I.—Mrs. W., æt. 30 years, the mother of three children, had had bad health since the birth of her last child, now two years old. She was greatly depressed in spirits and imagined she had all sorts of diseases, but for a few months she had regained, to a considerable degree, her former health and spirits.

February 21st, 1888, she was taken with chills and headache, and on the morning of the 22d, when first seen by Dr. Cahall, she complained of acute pains down both legs, but more intense in the posterior aspect of the knee joints, any movements of the limbs causing her to scream with pain. She already had headaches, contraction of the muscles of the neck; and ten to fifteen irregularly shaped spots, of a color from pink to purple, and from the size of a pea to a silver dime, were scattered over the legs and abdomen. Diarrhœa, abdominal distention, and tenderness were present from the first. Delirium came on by the morning of the 23d, with lucid intervals, when she said she saw everything double. All the other symptoms were intensified.

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* Read before the Philadelphia Neurological Society.

On the 24th she was totally blind and partially deaf, but when aroused could give sensible answers to questions. She still complained of the headache, but not of the legs unless pressure was made along the course of the nerves, when she would cry out as though suffering great pain. The pulse was rapid, but the temperature was never over 103°. There was general hyperæsthesia.

On the 25th she sank in a stupor, from which it was gradually more and more difficult to arouse her. She died upon the morning of the 29th, on the eighth day of her sickness.

Dr. Mills saw her in consultation the day before her death.

Autopsy.—Dr. A. H. P. Leuf and Judson Deland performed the autopsy, at which the writers were present and examined the specimens. The following are the results of the microscopic examination:

Brain: The pericranium was very vascular. The veins of the dura mater were gorged with dark, venous blood on the outside, and the inner side of the membrane showed marked arterial injection. It was adherent to the convexity of the right hemisphere at the upper border of the quadrate lobule. In front of this, on both sides, were Pacchionian adhesions of the dura to the brain. The anterior lobes of the brain, especially on their convexity near the great median fissure, were œdematous, with a few slight opacities of the pia. At the base was seen liquid and semi-liquid pus about the optic chiasm, interpeduncular space, pons, and oblongata. The auditory and facial nerves were bathed in pus, as were, in fact, all the nerves at the base of the brain except the olfactories. All the cranial nerves were soft, especially the olfactory and optic. Softening of the crura cerebri, pons, crura cerebelli, and oblongata was also decided. The pia covering the isthmus was intensely injected, but this could only be seen by the removal of the pus that covered it. The arachnoid between the medulla and cerebellum was also covered by a thick layer of pus.

The puncta cruenta were well marked, numerous and dark. The basal ganglia were normal, except some venous puncta. The fornix was softened. The fissure of Sylvius presented nothing abnormal on either side when opened for inspection, and all the cerebral vessels appeared normal.

Spinal cord: On opening the spinal canal, the cord lay flat and spread out in its membranes, instead of being narrow for the canal, and bulging with well-marked convexity. The dural vessels were well injected externally and internally. On section of the dura pus exuded freely. The membranous coverings of the spinal nerves within the canals were almost ecchymotic. This was most noticeable in those given off opposite the lumbar enlargement, and especially on the left side. The whole cord was surrounded with yellow, creamy pus. The lower half of the back of the cord was covered with a yellow gelatiniform pus layer, while the same covering was found on only the lower two inches in front. All the pus was situated between the dura and pia. The anterior and posterior spinal vessels were gorged with blood, and there was a fine injection of the arterioles of pia and dura. A few adhesions between the pia and dura were noticed behind, but many throughout the whole length of the cord in front.

Peripheral nerves: The lower end of the left sciatic in its two divisions (the internal and external popliteal) were removed; they were marked externally by several distended blood vessels. On the right side this was not so noticeable as on the left. The second, third, and fourth digital nerves of the dorsum of the right foot presented nothing abnormal, but slight pressure at the end with forceps caused some blood to appear. The same was true of the second and third digitals of the dorsum of the left foot.

Muscles: A piece of muscle was excised from the lower end of each semi-membranosus. To the naked eye it presented nothing abnormal.

Thoracic and abdominal viscera: Careful examination showed the lungs to be crepitant throughout and apparently entirely normal. The pleural cavities were free from effusion. A few adhesions were present on the right side, and numerous adhesions on the left, many of which were evidently quite old.

So far as could be determined by careful naked-eye examination, the heart and aorta, intestines, liver and kidneys were normal.

The stomach was normal in size, but here and there under the mucous membrane, were seen small extravasations of blood. The spleen was twice its normal size, but of firm consistence, and its capsule normal. The uterus and its appendages were normal in size, shape and position. The endometrium was somewhat thickened, and of a dark red color; there were considerable submucous extravasations of blood.

Marked evidences of recent moderate, adherent peritonitis were found. This was particularly noticeable on the surface and between the coils of the small intestine. At no place did the layer of lymph exceed the thickness of a sheet of paper, and the peritoneal cavity contained no liquid effusion.

A small drop of purulent-looking substance from the thick exudation covering the spinal cord was examined microscopically by Dr. Deland, and showed numerous leucocytes imbedded in a gelatinous-like substance, probably lymph; apparently there was not as much pus as would be expected from the marked yellow color.

Case 2.—N. W., æt. 11 years, daughter of Mrs. W. (Case 1), was of a nervous disposition, inherited from her mother.

Three days before her mother's death the child was taken suddenly ill with pain in her left leg below the knee, particularly severe around the ankle-joint. Slight redness and swelling were perceived about this joint.

Tincture of opium and sodium salicylate were prescribed, and on the following morning the leg was much better, but her neck was painful and drawn to the left side, from contraction of the sterno-cleido-mastoid muscle. There was tenderness along the spine from between the shoulders to the occiput. She did not suffer from headache and had no delirium. The special senses remained normal. The bowels were constipated. In the evening a slight rise of temperature was noticed, but her pulse was slower than normal.

Under ordinary circumstances the case would probably have been dismissed as an ordinary one of rheumatic or neuralgic torticollis, but the patient's mother was lying upstairs with an undoubted attack of cerebro-spinal meningitis, which had commenced in a similar though more violent manner. This aroused suspicion as to a similar cause for the two attacks. An eruption was looked for, but did not appear until the fourth day, when five spots, two pink and three purple, made their appearance on the legs and lower part of the abdomen.

The tincture of opium and sodium of salicylate were continued in moderately large doses. Friction and counter-irritation were used upon the neck, but the contraction and tenderness on pressure remained in a marked degree for several days, and did not finally disappear for several days longer.

Case 3.—M. M., æt. 24 years, a mill girl, had a history, both in herself and in the female portion of her family, of a highly nervous temperament. On the 16th of January, while enjoying her usual health, she had gone to her work. During a passionate debate among the employés as to the advisability of a strike, which she opposed, she proceeded, with the others, to the sidewalk, laboring under great mental excitement, The day was very cold, and shortly after reaching the windy street she fell to the pavement screaming with a pain in her neck. She was taken to the house of a neighboring physician, who gave her two hypodermatic injections of morphia, after which she was taken home. At first she complained of nothing except the intense pain in the neck. The head was drawn backward. She had no fever; pulse 60. The day following her neck was about the same, while an intense headache, of a constricting character was added. The mental faculties were clear and all the functions of the body were well performed. Fever was still absent and pulse 60.

After the use, for two or three days, of morphia, bromide and chloral, without the slightest improvement, hysteria was suspected, but later a genuine organic disease seemed manifest. At about the end of a week she complained of great pain in both legs, and especially upon pressure over the nerves. Dr. Mills saw her at this time in consultation. While the pain in the legs continued, the headache and neckache were greatly lessened. Morphia, sodium salicylate, and oil of gaultheria were given, under which the pain in the legs disappeared. The headache never returned with its first intensity, but an active delirium took its place. Illusions and delusions kept her in a state of excitement for days, with scarcely any sleep, in spite of large doses of anodynes. The drawn state of the neck was persistent. Fever came on, although never high. The pulse continued slow.

The patient drifted from bad to worse. The active delirium gave place to a heavy stupor, when it was difficult to administer either medicine or nourishment; but as nourishment was considered the most pressing need, it was regularly and persistently forced upon the patient. A flee-bite eruption appeared on the arms, face and neck, but not until after the second week. The eruption would disappear and reappear, but never so distinctly as at first.

For three weeks longer, or to the fifth week of the sickness, the patient's mental condition remained practically unchanged. Iodide of potassium 5 grains and bichloride of mercury $^1/_{48}$ grain, were given three times a day. In three days the girl's mind was perfectly clear, and she remembered her sickness only as a disagreeable dream.

Case 4.—R. D., æt. 19 years, a mill girl, was taken suddenly ill while at her work on the 1st of March. An intense headache followed by chills ushered in a high fever. Her temperature was 103.5° the first evening. She complained of pain in the limbs and neck, but there was no contraction of the muscles of the neck until March 3d. Nausea and vomiting were present during the first three days, and during the nights of the same days the patient was delirious.

Pills of opium and quinine, with an effervescing fever mixture, reduced the temperature by March 4th to 100° F., above which it never again rose. From the 4th to the 9th the case remained at a standstill. The headache was greatly better, but the contraction of the muscles of the neck was increased, fixing the neck immovably backward. Hyperæsthesia and deep-seated pain upon slight pressure were present over the whole posterior region of the neck. The patient complained of feebleness and exhaustion. On the 9th the opium and quinine were given at longer intervals, and iodide of potassium 5 grains, and bichloride of mercury $^1/_{48}$ grain, four times a day.

In two days the patient was sitting up, with fever gone, neck greatly relieved, and appetite and sleep returned. Her convalescence was from this date forward, rapid and complete. No spots were found in this case.

Case 5.—Notes of the following case were furnished by Dr. J. V. Kelley, of Manayunk, Philadelphia:

The patient, a young man, was first seen February 18th, 1888. He was in good health until the preceding day, when in the evening he was taken with a chill, vomited twice, and had two stools. He worked during the forenoon of the day he was taken sick, although feeling very badly. At 2 P. M., when first seen by Dr. Kelley, he was in bed and complained of great soreness. He complained of tenderness, confined to the abdomen, so much so that the case was at first thought to be one of enteritis. He was very cold; pulse 134, and he seemed much prostrated. He was placed on brandy and tonics, and the next day in a manner revived.

February 20th he was seen by Dr. Bruen, who thought the case to be one of cerebro-spinal fever. Herpes labialis was beginning to show. The next day he had some delirium; his pulse was still 134.

On the 22d he was seen by Dr. Pepper, who agreed that the case was one of cerebro-spinal fever. Herpes labialis was now profuse, some delirium was present, and hearing and sight both defective. He had two offensive stools, and complained of great general soreness, but had no characteristic spots, although there was a vesicular eruption on the chest. He had no retraction of the head, although his neck was somewhat stiff. His abdomen was tympanitic, and this persisted until death occurred, February 28th.

About the fifth day of his seizure the patient complained of blindness. On one occasion he bled from the nose and spat some blood. No lung or heart symptoms could be demonstrated by examination, and the man died from prostration on the eleventh day of the disorder. He showed typhoid signs, but the case was certainly not typhoid fever. The treatment was by stimulation and tonics, with full feeding. Brandy, quinine, digitalis, opium and turpentine were given.

Case 6.—The following interesting case occurred in the practice of Dr. J. W. Dick, and was seen by Dr. Mills several times in consultation. The patient, R. A., a boy æt. 8 years, in the latter part of October, 1887, had a mild attack of scarlet fever, followed by slight nephritis, which kept him in the house until the last of December. After this time he began running out of doors in all sorts of weather, in his play sometimes lying down in the snow. He seemed to be in the best of health until February 2d, when he was suddenly taken sick at school. He came home complaining of violent headache, and was taken down also with vomiting and high fever, with marked delirium. The delirium soon subsided, and he sank into a semi-conscious condition. He would not answer, as a rule, any question or demand, but sometimes asked for a drink, and he would give notice when he wished to evacuate the bowels or bladder. On the fourth day an eruption appeared over the entire body, more especially marked on the face, neck, and upper extremities. The eruption consisted of small, pin-point, fleabite-like spots, which did not disappear on pressure. It faded in about four days after its first appearance.

His temperature varied at first from 103° to 105° F., sometimes higher in the morning than in the evening, and sometimes the reverse.

After this his temperature showed a tendency to fall, and came down to 99.5°.

His pulse was weak but regular, varying usually from 112 to 120. His respirations ranged from about 30 to 40. The vomiting lasted only during the first day, after which he took and retained both food and medicine. His bowels were usually slightly constipated, but responded freely to enemata. After February 22d he did not attempt to speak, but lay in a comatose condition, with frequent sudden outcries, as if in pain. His abdomen became decidedly scaphoid. He was troubled with a cough throughout his entire sickness. There were abundant mucous râles, with a little dullness on percussion on the right side.

In the beginning of his sickness the slightest movement gave rise to intense pain. This gradually subsided, but he continued throughout to have great tenderness on pressure in the region of the neck and in the legs. The pain in his lower extremities was a very marked symptom; handling them and pressure along the nerves or squeezing of the muscles caused great suffering. No swelling of the joints was present. He exhibited some pain and tenderness in the upper extremities, but not nearly as marked as in the lower; the knee jerks were retained. He could move the legs up and down freely, but the feet had a tendency to assume the equino-varus position; this foot-drop was more marked on the right side. No paralysis of the cranial nerves was present. For three weeks before his death he was apparently both blind and deaf; for a short time he had a slight discharge from the left ear. He died on the thirty-sixth day.

ABSTRACTS.

THE Lumleian lectures in the Royal College of Physicians were delivered this year by Dr. Dickinson, of St. George's Hospital, well known for his writings on diseases of the kidneys and diabetes, and some little surprise was felt when it was known that "The Tongue" was to be the next text of his lectures, and not anything from his own specialty. The lectures were, however, of considerable interest, and were couched, as indeed are all his writings, in the most elegant diction.

He said, in concluding his remarks: "The tongue is an index of constitutional states, seldom of individual diseases. An ancient theologian described the face of a wicked man as a map of the empire of sin. It has been fancied that the tongue presents a map of the empire of disease; and a writer, though one of no great note, has gone so far as to divide the lingual surface into a number of rectangular regions as numerous as the United States of America, which he places under the rule of separate organs; the larynx, the bronchi, the lungs, the pleuræ, the large intestine, the small intestine, the kidneys and the brain each possessing a distinct territory. The heart, says this writer very wisely, has a common control over all. But, in truth, the tongue has no such local signification; it seldom points to solitary organs or isolated disorders, but is rather a gauge of the effects of disease upon the system than an indication as to the locality of it. It is often a guide in treatment, so far as treatment is general and not local, and it is an important help in prognosis. It may be doubted indeed whether any means open to the physician, including the pulse and the thermometer, give him more insight into constitutional states than he can derive from the tongue. Clinically, it always speaks the truth and in a language which is not foreign to the experienced physician. And how much truth, or rather how many truths, are to be read on how small a page! Conditions of fever and of feeding; states of the nervous system; the maintenance or abeyance of vital secretions; failure of vitality, though we may not be able to find out why; in one case that the disease is getting the better of the patient, in another that the patient is getting the better of the disease—all these are discernible to the educated eye. The clinical value of the tongue largely depends on the number of interests it represents; these are more or less mingled in its indications, and the impression they convey is a combined one, but it is none the less valuable because comprehensive; it gives to a glance what otherwise could only be learned by detailed inquiry. . . . It has been shown that the several degrees of coat are mainly due to overgrowth of epithelium, through in a smaller measure to its want of removal, and that there is a remarkable correspondence between the heat of the body and the coating of the tongue. If the tongue be coated, the indication is usually of febrile disturbance without especial reference to the stomach or liver, and points more to the general system than to the alimentary. Though something is to be ascribed to disuse, yet I think I have shown that too much has been, and that more than one modern observer, like an uncharitable pedagogue, has attributed to idleness what is directly due to illness. . . . The dry and encrusted tongue is seldom disregarded as a cry for animal liquids, which require little digestion, and alcohol, which requires none. I have often taken the dry tongue as an indication for peptonized food and thought it beneficial, but have not as yet had enough experience to speak confidently. . . . When the tongue becomes dry and bare it is ill with the patient. He is not sure to die, but likely to; if, as has been said, the tongues of dying men enforce attention, it must often be directed to this. The indication of the red, smooth tone is for what failing nutrition calls for—tonics, stimulants and food, probably liquid, but nourishing. The failing pulse does not more surely tell of asthenic tendencies than, as a rule, does the dry, red and polished tongue. The tongue, indeed, has a whole book of prognostics written upon its surface. When the tongue is approaching the condition of health, so as a rule is the patient, as is seen whenever the red, dry and bare tongue acquires moisture and clothing. There is no better sign in diabetes than the resumption of the natural moisture by a tongue that has been dry. Something may be judged by the way an encrusted tongue cleans; if gradually and from the edges, well; less so when in scales, especially when the surface exposed is red and dry. One glance at the coated or plastered tongue may give an assurance which perhaps could not be otherwise obtained that the disease is on the wane. If the thick coat in the centre steeply shelves toward the sides and front, revealing a normal moist and not over-injected surface, the tongue is in process of cleaning; the natural friction is overcoming the coating process, and tongue and patient are on the mend. A tongue acquires a coat more evenly and generally than it parts with it. We can thus tell whether the coating is on the advance or decline, and apply this rule to the disease."

Dr. W. L. Worcester, of Kalamazoo, Mich., reports the pathological changes found on post-mortem examination of three persons who died of pernicious anemia. In one case the microscope revealed great atrophy of the mucous membrane of the stomach, which was transformed into a fibrous tissue infiltrated with leucocytes, of not more than one-fourth of the thickness of the normal mucous membrane, and in many portions presenting scarcely a trace of glandular structure. Bruner's glands in the region of the pylorus were not affected.

In another case there was very marked atrophy of the mucous membrane of the stomach, with almost complete absence of glandular structure.

In a third case the mucous membrane was greatly atrophied, although the destruction of the glandular tissue was not so great as in the preceding cases. Its secreting power was estimated to be about one-fifth of that of the healthy stomach.

Dr. Worcester also reports a case in which the symptoms together with a microscopical examination of the patient's blood made the diagnosis of pernicious anemia unquestionable. Fowler's solution in three-drop cases was given three times daily and gradually increased till eight drops were taken at each dose in the course of four weeks. Full doses of pepsin with hydrochloric acid were also administered to supplement the deficient digestive power of the stomach. At the end of three months the patient was fully convalescent and progressed uninterruptedly to recovery. Four years later she was attacked with the same trouble of which she died within three months. No autopsy could be obtained.

ORIGINAL CORRESPONDENCE.

15 Rue Caumartin, Paris,
July 20th, 1888.

To the Editors of Gaillard's Medical Journal:

Dear Sirs :

Dr. Charcot has just returned from a protracted professional visit to the Emperor of Brazil, who has been very seriously ill at Milan, bringing with him fresher laurels and a still greater renown. The reputation which he has achieved, not only as a scientist, but as a practioner of medicine, is something phenomenal. His office is daily thronged with patients from every quarter of the globe, and he is frequently called upon to make professional visits to every country of Europe, and even to Africa.

During the last six months I have been brought into intimate relations with him by having had him as regular consultant in a case of threatened insanity in a child, and during that period he has, to my personal knowledge, been called twice to England, twice to Spain, once to Russia, once to Italy, twice to Algiers, and a great number of times to the provinces of France. Although he has not the appearance of a robust man, his absolutely regular life has secured for him perfect health, and he has, consequently, great powers of endurance. Besides, these long journeys really secure for him a certain amount of repose—a relief from the intellectual and physical tension to which his immense *clientèle* and professorial duties continuously subject him at Paris. His recent visit to Dom Pedro was perhaps the most memorable of his career, for his patient was an emperor, his colleagues were the most noted physicians of Italy, his treatment was a miracle of appropriateness and efficacy, and he received a princely fee—the sum of forty thousand francs, in addition to the expenses of his journey. And yet, when I first knew this remarkable man—and it seems but yesterday—he was an humble *chef de clinique* in Piory's service at La Charité, only too happy to supplement his modest salary by the fees derived from instructing a class of American students.

What has wrought this wonderful transformation in his fortunes? Not the influence of family and friends, for he had neither. Not fortune's caprice nor favor's wantonness, for they do not seek their favorites in the lonely garrets where the children of the people dwell. He has conquered in the struggle of life simply and exclusively because of the possession of that combination of high aspiration and fixedness of purpose which inspires a contempt for opposing obstacles, and a determination to succeed so intense and absorbing as to become *per se* at once an earnest and a guarantee of success.

The light which has illuminated his pathway and guided him to fame and fortune has been that of the midnight lamp, which, with unfaltering persistency and courage, he has kept trimmed and burning, until its rays, commingling with those of the morning, have dissipated the darkness and ushered in a day brighter and more glorious by far than he had hoped to behold even in the most sanguine hour of his young ambition's dream.

Reverting to the subject of fees, I must say that he is never extravagant in his charges, being satisfied with forty francs in his office, sixty francs for an ordinary visit, and one hundred francs for a consultation with another physician. He sometimes, however, receives very large sums from his princely patients, it being the custom here to make no fixed charge against people of rank, but to leave the matter to their sense of justice and sentiment of generosity. In this regard he differs materially from another physician much in vogue at present, who is as rapacious as a cormorant and as exacting as his ancestor Shylock of the "pound of flesh" memory, as the following incident establishes. A patient of mine who had rather a persistent gonorrhœa —as young men who sow their wild oats in Paris are wont to have— insisted that I should give him a card of introduction to Professor X., as he wanted something "new and sure" in the way of treatment. I acceded to his request, and he returned to my office a few days afterwards, looking as limp as a *chiffon mouillé*, when the following conversation occurred between us:

Patient: "Well, doctor, I saw Professor X. to-day, and he made me sick—sick as a dog."

Doctor: "What do you mean? Did he give you a dose of medicine while you were in his office?"

Patient: "Not a drop. It is what I gave *him* that has upset me."

Doctor: "Explain yourself. What do you mean?"

Patient: "Well, I will tell you all about it, but you must write me down a fool from this time forward. I presented your card, was graciously received and requested to state my case. I did so, and ended by saying that as you could not cure a man who insisted upon indulging every night or two, I hoped he could, and I wanted him to give me the *newest thing* out for that purpose. He smiled blandly, wrote a prescription and handed it to me, saying, 'I have given you the 'newest thing out,' and you will be cured in three days.' Observing a number of loose Napoleons on the mantel-piece, I opened my purse for the purpose of placing two more there, having understood that his fee was forty francs. To my surprise, I found that the purse contained nothing smaller than a five hundred franc bank-note, and turning to the professor I explained my dilemma and handed him the note, and requested him to give me the requisite change. Thrusting it in his pocket and muttering '*Je ne comprends pas*,' he struck his hand-bell so violently that his frightened servant rushed in another client and bowed me out of the room in such a rapid way that it made my head swim, leaving me with a prescription for which I had paid one hundred dollars. Is not that enough to make a man sick? Well, any way, I have a prescription for the 'newest thing out,' something that will cure the gonorrhœa in three days, and my hundred dollars may not prove a bad investment after all."

Doctor: "Well, that beats the Jews, and it took a Jew to do it. If you are satisfied, I am, but it strikes me that you paid pretty dearly even for the 'newest thing out.' Few young men could pay for their wild oats at such rates. But let me see what he has given you, for I want the benefit of your bargain as well, though I never expect to be paid a hundred dollars for it."

Patient: "All right. I have not read the prescription, but you are welcome to take a copy of it for the benefit of the boys in general."

Opening his pocket-book, he took out a scrap of paper, upon which was written:

"*Des capsules de copaive. Trois après chaque repas.*

"DR. X——."

"Sold, by gracious! *Vive la blague!*" cried the young man, as he made a hurried exit from my office to catch the train for the Havre steamer, on which he was to sail the next morning, a wiser if not a cured man, and I have never seen him since.

Apropos of the Emperor of Brazil, it is said that the *fons et origo* of the symptoms which recently proved so nearly fatal to him is glycosuria. It is astonishing to note how frequently that disease is encountered of late; but I am strongly inclined to the opinion that its apparent increase is really due to the fact that, with the advances which have been made in etiology and diagnosis, it is now more readily recognized than formerly. However this may be, it is unquestionably true that its death-rate has diminished, that we treat it more successfully than did our fathers. I am convinced that diabetes is not necessarily a fatal disease, but that, on the contrary, many cases are curable and a large majority can be kept in abeyance during an ordinary life-time, provided that those afflicted with it have the courage and determination to adhere with absolute fidelity to the necessary regimen and treatment. These favorable results have become the more assured since the addition to the dietic list of a perfect substitute for sugar, which, as you know, has hitherto been the great *desideratum* in the therapeutics of diabetes. Few greater boons have been conferred upon suffering humanity than the discovery of saccharine, a substance which, notwithstanding the teachings of worms and the warnings deducible from its rejection by bees and wasps, is absolutely innocuous to the human system. And I will even go a step farther and say that, although it passes intact through the system, a recent case convinces me that during its passage, either by directly modifying the glycogenic function of the liver, or by exerting a catalytic influence upon the forming glucose, it diminishes the amount of sugar actually eliminated, and hence becomes a remedy, and a potent one, in the treatment of diabetes.

Nor is the value of saccharine limited to the treatment of diabetes. It plays a rôle scarcely less important in the therapeutics of gout, rheumatism and certain forms of dyspepsia—in all diseases, really, wherein sugar is contra-indicated—while it enables the druggist to improve the flavor of his mixtures without altering their properties or rendering them sources of disturbance to the stomach.

America may well be proud of having made so valuable a contribution to modern therapy.

I have written much, and yet have omitted many things that I intended to discuss in this letter. Hoping to be more concise in the future, I remain,

Yours very truly and respectfully,

EDWARD WARREN BEY.

NOTES ON THE TREATMENT OF DYSENTERY.

AUSTIN, TEXAS,
June, 1888.

Editors GAILLARD'S MEDICAL JOURNAL:

I take pleasure in sending you the following notes on the treatment of dysentery:

We are sometimes called to treat cases of dysentery, that from neglect or improper treatment have become gravely severe.

To relieve the intense tenesmus and bloody discharges, and quiet peristaltic action of the bowels—after giving a hypodermic of atropia—we carefully introduce a soft medium sized rubber velvet-eyed catheter, as far as possible into the bowel, and with a large sized common glass syringe, slowly inject through said catheter, the following mixture:

℞ Ellis charcoal	
Listerine - - - -	āā ʒii.
Ex. belladonna - - - -	ʒi.
Ex. ipecac - - - -	ʒss.
Subnitrate bismuth - - -	℥ss.
Camphor water - - -	q.s. ad. ℥4.

Mix well together.

S.—Tablespoonful in half pint *hot water hot* as can be borne—to be injected every two to four hours, until all bloody discharges cease, and pains in the bowels are relieved.

Great care and gentleness should be observed during this operation and the injection introduced very slowly; and *immediately* after the catheter is withdrawn, a soft wet cloth, *hot* as can be borne, should be firmly pressed up against the anus for five or ten minutes.

As we have already, not long since, more than once published our general mode of treating "acute sporadic dysenteries," we forbear annoying repetition.

Suffice it to say:

In the treatment of acute sporadic dysenteries, we do not administer *opiates* or mercurials, or starve our patients—all of which we believe to be injurious in the treatment of this disease, and *opium* especially so.

We relieve the *pains* of our patients by moist *hot* applications with liniments, hypodermics of atropia, and such other drugs as may be indicated in any given case; all of which are usually given in very small doses.

We feed our patients well, three times a day, giving preference to good ripe fruits, fruit-juices, well-cooked and seasoned green salads, choice water-melons, and good buttermilk.

Q. C. SMITH, M. D.

PROCEEDINGS OF SOCIETIES.

ANNUAL ADDRESS, DELIVERED BEFORE THE FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION, AT ITS FOURTH ANNUAL MEETING, HELD IN BROOKLYN, May 22, 1888.

By the President, EDWIN BARNES, M.D., Pleasant Plains, Dutchess Co., New York.

Fellows of the Fifth District Branch of the Medical Association of the State of New York, our Fourth Annual Meeting opens under bright and happy auspices, the result of the able and earnest work done at our previous meetings. Where all have done so well it would seem almost invidious to distinguish, yet it is right to acknowledge the obligations we are all under to our efficient Secretary whose tireless industry and fertility of resource overcame all obstacles, and, it may be truthfully said, "organized success." The Medical Association of the State of New York, with its subordinate and affiliated branches, has been from the first a model society, remarkable alike for the high character of its scientific work and the smoothness and perfection of its organization. Its most distinguishing feature is the prominence given to the clinical aspect and relations of the subject under discussion. Theory, of course, we have had in abundance: etiology, histology, pathology—but ever present also this sentiment: how can our knowledge of this disease or injury be best brought to bear for its relief or cure? The method of designating beforehand some particular disease or injury for discussion, and the preparation of elaborate essays upon its origin, pathology, symptomatology and treatment has been the means already of greatly enlarging our knowledge of diseases and injuries and of increasing our resources in treatment. Would it not be well to make use of some such method of work in therapeutic research? To have certain members of the Branch act in concert in investigating the effects of designated remedies, and lay the results of their research before the Branch. Much could be accomplished by careful and painstaking effort in this direction, and the conclusions of several independent observers, should they coincide, would go far to clear up many things in regard to the action of certain remedies that now seem involved in doubt, obscurity and even contradiction. An organization for scientific work cannot subsist alone upon enthusiasm; work is to be done at every meeting; work that will stimulate and reassure the members of the Society and incite them to renewed effort. It should not all be left for the veterans to do, those who have grown gray in the path of duty, and whose names are known and honored throughout the scientific world—the Society has a just claim upon all. To everyone is known some fact of science, or something in the pathology or symptomatology of disease, or something new and of use in treatment which he has heretofore kept to himself; and upon such we urge our claim. Give us of the fruits of your knowledge; think out your idea; formulate it; reduce it to writing, and read it at some of our meetings. It is such downright, personal endeavor which gives life and energy to society work. An annual address from the chair is supposed to give some space to the needs of the profession, but these are so thoroughly discussed in the professional journals that not much remains to be said, though there is one subject always talked about and seemingly as far as ever from solution, to which I would like to ask your attention for a few minutes. It is the overcrowding of our profession. This is said in no spirit of trades-unionism: the members of a profession that is constantly seeking by sanitary and preventive medicine to lessen its own field of clinical usefulness can well afford to smile at any such insinuation. But this overcrowding is a great and ever-increasing evil, from which those already in the profession, the new accessions to its ranks and the general public suffer alike. It will not do to say that the colleges alone are to blame in this matter: constituted as they now are, an increasing attendance in the classes means an increasing source of revenue to the professors; and we all know how an increasing revenue tends to reconcile one to the existing state of things. The fault lies at our own door: we are too easy-going about taking students. To many physicians it seems a very laudable ambition for a young man fresh from the plow, the counter, the desk or workshop, to endeavor to better his condition and become of more account in the world by entering a profession. Instead of explaining to him his total lack of the requisite preparation, and the long and weary task of acquiring the necessary preliminary education, we too frequently yield to persuasion, accept him as a student, and a good mechanic or accountant is spoiled, and a medium or inferior doctor is made. The remark is often made that such men will do well enough for some isolated community, or for the meagre compensation sure to fall to them as their share in the fierce competition caused by the hordes of graduates each year turned loose; but we must not lose sight of the numbers of college-bred men who are forced to be content with much smaller salaries, as clerk, agent or accountant. It is a question of fitness for work, and should not be looked at solely from a commercial point of view. Isolated and poor communities have their rights too, and it is as much due to them as to more metropolitan districts, that the standard of professional excellence should be raised. The slightly raised cost of medical attendance would be more than compensated by the greater fitness of the practitioner. It may be that we shall be compelled to wait for this state of things to work out its own cure, but if the profession at large would only demand that students should be better prepared before commencing their especially professional reading, much would be gained toward remedying the evil.

The subject to which I wish to call your attention this morning, as my own contribution to the scientific work of the Branch, is that of "Diphtheria and Its Treatment." Few subjects are so much written about. And in few—perhaps in none—is there so little uniformity of treatment. The terrible severity of the disease; the fact that no station or condition of life is exempt from its ravages; and the fact that any practitioner may be at any time called upon to face it all—give to anything relating to this dread disease a terrible and absorbing interest. One after another, different systems of treatment have had their rise, progress, and decline. Just now, that by balsamics, turpentine, benzoic acid, cubebs, etc., seems to be again coming into favor, and it is of this plan of treatment that I have written this brief and imperfect paper giving the results of treatment during three distinct epidemics of the disease, as well as of the isolated cases that occur from time to time in the experience of any general practitioner. I make no claim to originality for this plan of treatment, having seen it described by the great Trousseau, as well as by Trelat, Trideau and Reignier, and also by Bergeron. In fact, it seems to be among the French clinicians that this mode of treatment has found the most favor. Dr. Beverly Robinson, of New York (once, I believe, a house physician of Bergeron), has also written ably in its favor. This morning I present for your consideration a resumé of the treatment of 141 cases of *true* diphtheria, every case having the false membrane in the throat, the enlarged cervical glands, the asthenic fever, and the peculiar fetor of the breath. All cases of simple membranous angina, follicular tonsillitis, or hepatic sore throat, have been rigidly excluded. If, as claimed by a very high authority, many of these are mild cases of true diphtheria, then the numbers given above would be greatly increased, and the showing made for the treatment would be far more favorable. The first of these epidemics commenced in the town of Hyde Park, Duchess County, in the month of August, 1875. From Hyde Park it spread into the adjoining towns of Clinton and Rhinebeck. Like most epidemics, it was most severe at the onset. It declined in the spring of 1876, broke out again in the autumn of that year, and declined again in the spring of 1877. It broke out with renewed intensity in the autumn of 1877, and then gradually disappeared. For the last five years, I have not had a case of it in my own practice. My first patient in the epidemic was an extremely self-witted and impulsive young lady who declined to take the classic mixture of tinct. iron with chlorate of potash, or to let me use the atomizer upon her throat. In utter despair I prescribed fluid extract of cubebs in syrup of tolu, and upon my next visit was delighted by the change for the better that had taken place. The throat had lost its dusky hue; the membrane was separating at the edges; the breath had lost most of its fetor; and the pulse was diminished in frequency, with increasing strength. The case progressed rapidly to convalescence, and since that time I have relied upon cubebs as the sheet anchor in the treatment of this disease. Of the 141 cases cited, 76 were males, 65 females. The youngest was six months old, the eldest 33 years. Twelve were fatal, and in three of these the remedy did not have a fair trial, the cases being far advanced and well nigh hopeless before the treatment was adopted.

These three children were in one family; the attending physician himself took the disease, and they were left alone for three days, poor, destitute, without medicine or either food or drink, except as they asked for it. In another case that resulted fatally the throat affection was complicated by whooping-cough, and the patient died from hæmorrhage brought on by the paroxysms of coughing. Three others, aged respectively 2½, 4, and 5½, had syphilitic ozoena, which I now think the most hopeless of complications, as in these cases all treatment was of no avail after the disease had reached the nares: the throat affection disappeared, but they died all the same. In five of the fatal cases Cadman & Shurtleff's steam atomizer, with solution of borax, lime water, solutions of permanganate of potash and of sulphite of lime, and finally solution of persulphate of iron was faithfully and perseveringly tried. I now think that without the atomizer the result might, in some of them, have been different. In all the fatal cases death was by asthenia, *none were asphyxiated.* I have never seen the disease invade the larynx when treated with cubebs from the onset. The treatment, which became almost a routine, was as follows: The patient was at once put to bed and kept there, and the following prescription given: Fluid extract cubebs, ℥jss; syrup tolu, to ℥iv; a teaspoonful every three hours, alternating with ferri et quiniæ citratis, ʒiij; aquæ puræ, ℥ij; make a solution and add syrup tolu to ℥iv; dose, a teaspoonful. These doses are for a child of from five to eight years. Stimulants were at first given freely in every case, but afterward only when the powers of life were evidently failing. In addition to this, directions were given that the child should have all the nourishment that he or she would take. Preference was, of course, given to milk and eggs, with beef tea and chicken or mutton broth, but these failing, he was to have whatever he would eat, and as much of it, the idea being that in diphtheria, most especially, something to eat is better than nothing, for if the appetite is once lost, it is seldom or never regained. If they showed any dislike of food, it was given at short intervals and in small quantities, preferably after taking medicine. The most cases were those in which the membrane was of a dirty grayish or green color, sometimes almost black. In one case—fatal, of course—an immense blood blister lined the fauces and moved back and forth with the movements of respiration. The next worst form of membrane was of a peculiar, smooth, dead-white appearance, like a wax cast. Nearly all of the fatal cases, as well as fully one-half of those that recovered, had diphtheritic coryza with the characteristic discharge, at first thin and ichorous, excoriating the upper lip, then sanious with epistaxis. In one case, my own little daughter, after the membrane had disappeared from the throat, the disease crept upward from the nares, through the nasal duct and lachrymal sac on the right side, and extended to the palpebral conjunctiva. Her recovery, though slow, was complete. It is not intended to represent cubebs as a specific for this terrible disease, but simply to say that it has stood the test of successive epidemics, and always gives excellent results. Much depends upon the mode of administration. Trousseau, Trelat, and Robinson contend that it should be given in powder, but the dose of powdered cubebs is so large that in the majority of cases it is very difficult to administer it, and frequently impossible. The fine particles of powder will lodge in the throat and give rise to irritation and cough. Everything depends upon the freshness and purity of the drug. I would have little confidence in an extract more than three months old. When pure and recent, its effects are sometimes almost marvelous. In from twenty-four to forty-eight hours, the membrane will be thrown off, leaving a healthy granulating surface, or a secondary membrane much less formidable than the first. The breath loses most of its fetor, the countenance of the patient brightens, he takes food readily, and is soon convalescent. Under this method of treatment, the severe local treatment often recommended is unnecessary. At the commencement of the epidemic I used the atomizer faithfully, and ran over the whole range of local applications; but, as cases multiplied, it was found that patients living in remote localities, where it was impossible to give them all these attentions, did fully as well, if not better, and this led me gradually to discontinue local treatment almost entirely. In my own experience, those that used a simple gargle of lemon juice and water, did far better than those who used the atomizer regularly and persistently. It is easy for the systematic treatises to direct that a strong solution of nitrate of silver or Monsel's salt should be sprayed or applied with the probang to every part of the membrane that can be reached, every two or three or four hours; but what good is done by it when the membrane is just as thickly deposited upon the floor of the nares, and the posterior surface of the pillars of the fauces and velum palati—places difficult or impossible to reach with the probang? Or, if these solutions are used by means of the atomizer, an amount of harm will be done by bringing them in contact with the lining of the trachea and bronchi that will overbalance any good done by their application to the fauces. I know that some writers of eminence claim that none of these substances pass beyond the glottis; but if coal gas, steam or the deadly choke damp of the mines, or the powdered glass used in manufactories of Christmas cards can pass beyond it, then why not the atomized fluids? They do so; and, in passing, sometimes do irreparable harm. Again, the use of the probang is very apt to nauseate children and bring on vomiting—a thing always to be dreaded; and, if young and timid, they struggle against it, and expend strength that they can ill afford to lose. Who has not read the graphic description, by Dr. Jacobi, of the two little children who died "with their heads between the nurse's knees," while she was by sheer brute strength syringing the nostrils, without sharing his evidently keen regret that neither of the nurses were yet in the State prison? The membrane is not the disease itself, and *as a membrane* kills only mechanically, as any substance would kill if present in sufficient quantity in the trachea or bronchi. It is an excreted substance which has done its worst when its elements were present in the general circulation, and it is powerless for further mischief except as an obstruction. It would, of course, be but to remove a mass of putrifying membrane that was blocking the pharynx and poisoning the breath, if it could be removed without worrying the patient too much; but beware of any measure, however necessary it may seem, that tires and exhausts him. But it is time for me to close. I thank you for the great honor you have conferred upon me. That it was neither expected or intrigued for you all know; how it will be prized and gratefully remembered I cannot find the words to tell you. I can only hope that as you remember the eminent men who have been my predecessors in the chair, the memory of their very greatness will lead you, from your great kindness of heart, to excuse my own shortcomings.

SURGICAL AID IN THE TREATMENT OF PULMONARY DISEASE.*

Gentlemen of the Association:—I shall probably not be successfully contradicted if I say that pulmonary diseases cause more deaths than all other ailments combined.

In entering upon a discussion of the subject of "Surgical Aid in the Treatment of Pulmonary Disease," I am aware that comparatively few clinical data can be produced upon which to base an argument. The discussion must, of necessity, be somewhat speculative. It is, as yet, a matter in contemplation, an event to come, perhaps, for the surgeon to have the temerity to amputate the tuberculous larynx, or to make a door in the chest cavity, and with the scalpel, the actual cautery, or the chemical escharotic or disinfectant, or all combined, rid a lung of its tuberculous or diseased portion, and then, by careful antiseptic or aseptic dressing, obtain union of the remaining parts, and thereafter transfer the patient to the physician for medical upbuilding and convalescence.

But few cases have been recorded of surgical attempts to reach and remove the causes or effects of pulmonary disease.

Hardly a year passes, however, but some new remedy for phthisis is suggested, and perhaps tried with supposed good result, and which is eagerly caught up by the profession, usually so conservative, and tested almost simultaneously in all parts of the civilized world, and a reluctant judgment passed upon it of: Useless for the purposes indicated. Hardly an article in the materia medica can be named which has not, at one time or another, had a short-lived reputation of being a cure for consumption.

Both the learned and the unlearned have been on the lookout for the expected remedy for this insidious but certain foe of our race. Disquisitions concerning the nature, character and causes of the dread malady have appeared all along the ages, until the literature of the subject is endless. Sense and nonsense have been written and spoken upon the subject. Facts have been written and rewritten. Errors that simple observation might long since have stamped as errors have constantly found place in the printed column, as book has succeeded book on the subject; or they have been repeated by the learned professor again and again, as the new teacher has replaced the older one. Now and again some careful student, some cogent thinker, some earnest investigator, has discovered error, developed fact, or demonstrated a hidden reality, so that rapid advances towards light and knowledge have been the result, and the profession and the world have become hopeful.

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* Read before the Fifth District Branch of the New York State Medical Association, May 22, 1888, by Nelson L. North, M.D., Brooklyn, Consulting Surgeon to the Methodist Episcopal Hospital, etc.

Since the promulgation of the germ theory of disease, and the discovery by Koch of the bacillus tuberculosis, the medical thought and action have been preternaturally quickened, and remedy after remedy has been suggested and put forward to destroy the micro-organism and efface its supposed or real results. Electricity, chemistry, and even mechanics, have been called to the aid of the physician, and the poor consumptive has been soothed or tortured between the poles of the galvanic battery, comforted or otherwise with the fumes or the concoctions from the chemist's laboratory, or he has been boxed up and "differentiated" with the contrivance of the mechanic. He has absorbed his medicaments in every possible way and in all sorts of combinations, taking them with his food and drink, with the air he breathes, with his baths, and received them hypodermatically and enterically. The microscopic enemy has been fought with medicines of every variety of form and dose, and still Dr. Flint, in the last edition of his work on "Practice,"* says: "The prognosis is extremely unfavorable in view of the fact that in many, if not most, parts of the world the mortality from this disease (pulmonary phthisis) exceeds that of any other, exclusive of fevers and affections which prevail epidemically or endemically." And a recent writer,† after an exhaustive review on "Antiseptic Inhalations in Pulmonary Diseases," sums up his remarks by saying:

"1. That we have not yet discovered the ways or means to destroy micro-organisms in the lungs in phthisical diseases.

"2. That our studies probably have not been in accordance with the teachings of physical or vital laws in order to fulfill this indication.

"3. That our failures in inhalation therapeutics may be due to misapprehension of the relationship of micro-organisms to disease.

"4. That it would be strange that if, in the end, we should discover that micro-organisms are not carriers of disease, but only the result of putrefaction, whether we find them in the dead carcass on the plains or in the lungs of the refined in luxurious habitations.

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* Page 210.

† S. J. Radcliffe, M.D., of Washington, D. C.

"5. That the object of our treatment should be rather to preserve structures in health than seek to destroy organisms which are not amenable to treatment."

Dr. Flint further says,* however, that "the mortality from the disease has undoubtedly diminished within the last three decades," which improvement he attributes to more intelligent management of the subjects of the disease, hygienic and otherwise, than to treatment.

The fact remains that, notwithstanding the better knowledge of the pathological conditions and the hygienic needs in diseases of the lungs, the treatment pursued is altogether unsettled and unsatisfactory, and without marked results.

Pulmonary phthisis attacks its multitudes now as in the ages past; and multitudes succumb to it, in spite of medicine, hygiene, climatic changes, and a largely increasing list of new remedies.

Even the acute affections of the organs of the chest prove fatal in character in nearly, if not quite, as large a percentage now as formerly. Pneumonia particularly is popularly believed to be the cause of more deaths now than in former times.†

At this juncture, with the thought of what surgery—modern surgery, antiseptic surgery—has accomplished in other parts of the body, in alleviating and curing diseases and injuries heretofore thought to be fatal, and only fatal in their tendencies and results, it would seem reasonable to turn our attention to the subject of surgical aid in chest diseases.

In view especially of what has recently been accomplished by antiseptic surgery in abdominal diseases and injuries, chest surgery would seem to give promise of important and favorable results. It is not my purpose, let me say here, to undervalue the present *medical* treatment of the various diseases of the lungs. Neither do I believe, with some, that *great* advances have *not* been made, both in a correcter understanding of the pathological conditions in diseases of the organs of the chest and in the treatment based upon those conditions. Nor yet do I believe in the incurability of phthisis pulmonalis, nor that the cases of recovery are so extremely rare, nor that treatment is so ineffectual as to lead to the opinion that management is of more importance than treatment.

Too many cases have come within my own observation which have, beyond a reasonable doubt, been suffering from phthisis in some of its different stages, which have, in course of treatment, began and continued to improve, and finally gone on to complete recovery. Hygienic management has done much. Climatic changes,* properly made, have done much. And medicines have greatly comforted and benefitted in many cases, and assisted in the complete cure of some. Cod-liver oil, the hypophosphites, of lime and soda more particularly, the infusions or fluid extracts of silphum and verbascum, with carbolic acid, iodine, iodoform, potassium-sulphide, the chlorides of mercury, more especially the bichloride, among other things, have, I believe, been the means of doing much good in phthisis; and when a better understanding shall be reached as to the best method of application—inhalation or internal use of these remedies and others of a supporting and germicidal character—I believe much greater benefit will result. And if we shall so far advance in the treatment of lung complaints as that the physician shall have the efficient aid of the surgeon, further and greater good will, it is fair to suppose, be the outcome.

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* Ibid.

† Dr. Hartshorne, of Philadelphia, has seemed to prove by statistics that pneumonia is positively far more fatal now than formerly, when treated by blood letting. And Dr. N. S. Davis, of Chicago, reiterates the statement at the late meeting of the American Medical Association, and says the mortality is greater now with the stimulating treatment than during the time when the expectant plan was in vogue, but that it was least during time of bleeding treatment.

To some it may appear as a retrogression to consider at this time the feasibility or appropriateness of the old, minor operation of phlebotomy as connected with the treatment of pneumonia. And yet those in this presence whose professional life dates back thirty, thirty-five and forty years will readily recall the remarkable relief blood-letting often afforded the patient suffering from this disease when promptly resorted to in the first or congestive stage; and candidly, gentlemen, in this condition of engorgement, when the lung is literally blocked up and the right side of the heart filled to overflowing with blood, is it not more rational to abstract the blood by venesection, if need be, or *even* by direct aspiration from the right ventrical, and so relieve the obstructed lung and the engorged heart, than to attempt to force the organs to accomplish an impossibility by the stimulating plan so common in what is now called the supporting treatment?

The fear of producing prostration by prompt radical treatment, as well in this disease as in some others, sometimes promotes, through improper attempts at stimulation, the very engorgement and consequent prostration it is desired to avoid. A brief reference to a personal experience of many years ago may serve to illustrate and point a moral as well. I was treating a case of uterine hæmorrhage following accidental abortion of two or three months, as I had been taught, with rest, opiates, astringents, the tampon, etc., etc., with some apparently *needed* stimulants, but my patient was really growing weaker and weaker every day. An old physician was called in, in my absence, who changed the whole treatment and gave the patient a brisk cathartic, which unloaded the bowel and relieved, probably, the cramped condition of the uterus, allowing normal contraction. And when I again called I was summarily discharged, with the word that the old doctor had cured the patient with a dose of physic—which, by the way, I should not have dared to have given for fear of prostrating my patient.

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* I know well that there is much difference of opinion among medical men as to what kind of climate is best. Volumes might be written upon this department of the subject were it appropriate to the discussion of to-day. My own opinion (after some personal experience) is, that a patient suffering from uncomplicated pulmonary tuberculosis will be benefitted by a residence in a dry, tonic, piney-woods atmosphere, not too warm, and yet not cold enough to prevent free exercise in the open air; while a patient with bronchitis, or a phthisical patient in whom the bronchial catarrh is the most prominent symptom, would be likely to receive benefit from a limited residence in a locality having a moist, warm climate. And I am very decided in my opinion that a patient suffering with advanced phthisis, accompanied with great prostration, diarrhœa, etc., should be urgently advised to stay at home.

But again: In the treatment of pneumonia, the patient having passed the dangerous point of engorgement, and the changes tending to resolution and health, usually called the second and third stages, having failed, and a condition of suppuration and breaking down of the lung, or perhaps gangrene, having supervened, it would seem eminently proper that surgery should be called to assist in the treatment, and an attempt at least be made to arrest the almost certain progress of the disease to a fatal termination by opening into the chest cavity at the most appropriate point, with the view of drainage of the pus cavities, and boldly removing, if need be, the diseased or gangrenous portions of the lung itself, which, with proper precautions, antiseptic and otherwise, would appear feasible and afford promise of good results.

Chronic abscess of the lung has already been relieved by surgical process. The question remaining for decision relative to chronic abscess is: How best to relieve? whether by resection of one or more ribs and a large, free opening, or by valvular outlet. It has occurred to me that with a device containing a ball valve the passage of fluid outwards might be made comparatively free, while the passage of air inwards might be practically prevented.

The central thought, however, in this discussion would seem to bear upon the relief or aid surgery may afford in the treatment of *tuberculous diseases* of the respiratory organs.

Laryngial phthisis, that most distressing and rapidly fatal form of consumption, certainly opens to the surgeon opportunities for testing the resources of his art with good hopes of favorable results.

Operative procedures for the arrest, and in some cases apparently permanent cure, of epitheliomatous, carcinomatous, and other malignant diseases of this organ have already, to quite an extent, taken place. The probabilities would encourage a resort to either partial or entire laryngectomy for the arrest, if not cure, of the tuberculous disease therein, more especially as tubercular laryngitis often proceeds to almost a fatal termination, with few indications of the invasion of the lung itself with the tuberculous matter.

It is a matter of serious import to even suggest surgical wounds of the chest; especially such as must involve the pleura and lungs, and yet recoveries from accidental wounds of the chest involving both pleura and lung are now not uncommon.

Many cases are reported in the "Surgical History of the War of the Rebellion," and the hospital records afford accounts of many more. Fortunately, a large percentage of these cases have recovered—even with the simple dressings made use of during the war that could be made available on the field and in the military hospitals. Very possibly the old fears of wounding the pleura, and of collapse of the lung from penetrating wounds of the thorax are less to be considered, because less dangerous than was formerly supposed. This danger from wounds of the pleura, may possibly, like the supposed peculiar danger from wounds of the peritonium, be rendered very much less under antiseptic precautions. And collapse of the lung from chest wounds, I take it is not seriously to be feared, except the chest cavity be allowed to fill up with blood, serum or pus, crowding the lung into collapse.

It is certainly within the scope of this discussion to consider the propriety of freely opening into the chest cavity at the point of usual selection for drainage of the pleural sack, between the axillary folds, or elsewhere as may seem best adopted to the peculiar case in hand.

Probably a free opening, such as could only be made by exsecting a portion of two or three ribs and turning the flaps, including the pleuracostalis, back, would be no more harmful than a timid incision, which, for the purposes desired, could afford but little, if any, good.

The desire is, to procure such a space in the thoracic wall as to be able to examine, thoroughly, the tuberculous lung, with the view of opening and draining the pus cavities; or, if possible, and the condition of the case warrants it, to clamp or ligate and remove with the knife, electricity, or the actual cautery, the diseased portion.

The thought, I am aware, immediately suggests itself, that if the lung is so far involved as that its base contains tuberculous nodules and cavities, it is probable that the whole lung is nearly or quite useless, and that the operation could afford little or no benefit, except for purposes of drainage; even so, a trial could only decide how much improvement such complete drainage could afford. I remember, a few years ago, the case of a consumptive patient who had been long sick and was in the last stages of the disease. She was in fact to all appearance in *articulo martis ;* when gradually she began to rally, and within twenty-four hours from the time she was supposed to be dying she was entirely conscious, smart and cheerful, and without a cough, and for a month improved beyond measure, without pain, without cough, but with very little appetite, saying that she felt as if she had been eating—felt satisfied—and expressed herself as improving every way and thought she should get well. At the expiration of about a month she grew rapidly worse again, as if with *acute phthisis*, and thereafter gradually sank and died. I was unable to obtain an autopsy. Had I succeeded, I expected to have found a passage from the lung cavities to the stomach, serving the double purpose of drainage and feeding tube, which, I imagine, finally infiltrated the whole system with the bacillus tuberculosis through the saturated food she received from the pus cavities.

One more operative suggestion has occupied my mind largely of late. It is in line with the recent practice of some of our more or less progressive younger surgeons, of removing tuberculous glands, joints, suspicious bones, etc.

The suggestion is a bold, free removal of the apex of the diseased lung—early—before the disease shall have spread to other portions of the same lung or to the other lung. The details of an operation to reach and remove a lung apex would be slightly different, owing to the difference in the origin and course of the right and left subclavian artery, depending upon which lung is originally the seat of the difficulty. I want to note my conviction, just here, that the usual statement of the older, as of some of the recent writers and teachers, "that the left lung is more obnoxious to tuberculous disease than the right" * is not a fact. I know that the cases which have come under my own observation have been largely the opposite. In fully seventy-five per cent. of my own cases the disease has commenced in the apex of the right lung. I have been at considerable pains for several years past to note all the cases of phthisis, which for any cause have been reported, where the origin was mentioned, and in all of these where I have been able to get definite particulars, I have found an average of eight out of ten (eighty per cent.) in which the disease commenced in the right apex.

The operation suggested for the removal of an apex of a lung would be almost identical in all its main features with that for tying the subclavian artery in its middle portion, except that after the vessel is reached, it, with its accompanying vein and nerves, should be lifted back with a blunt hook, and the pleura with the enclosed lung apex just beneath and behind should be carefully grasped, loosened and lifted up, or withdrawn from the upper thoracic cavity, if possible so much of it as is diseased or tuberculous, and after the application of appropriate clamps to prevent hæmorrhage or the egress or ingress of air, the deliberate removal, ablation, with knife or scissors, of that portion of the lung; and then, with the continuous catgut suture, close the lung and pleural wound, when the whole may be allowed to drop back into the chest cavity; after which, with the utmost care, as to drainage, etc., etc., the external incision may be closed—of course the whole process to be undertaken and carried forward from the commencement to the close under the most approved and careful antiseptic precautions. Very possibly in some cases the clavicle would need to be sawn asunder * and turned back—as in others the first rib might have to be exsected in order to get room to reach and manipulate the lung apex. And again, possibly in some cases a posterior operation exsecting a portion of the first and second ribs posteriorly—pushing aside and downwards the scapula—might prove the most feasible plan.

The object in either case being a radical procedure, looking to a cure of the disease—or a preventive of general tuberculosis by an early removal of the original nidus of the *tubercle* bacilli.

Without further comment I throw open the discussion with the following interrogatives, viz.:

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* Watson's Practice, p. 696.

* In which case it should be wired on its return.

1.—Can surgery be made available in the treatment of pneumonia or other acute affections of the lungs; and if so, how?

2.—Can surgery assist in the treatment of abscess of the lung, and what is the safest and most effectual mode of reaching, evacuating and draining the abscess?

3.—What surgical process, if any, can help in the treatment of laryngeal phthisis?

4.—Can surgery be made effectual in draining tubercular cavities; and if so, how?

5.—Is it possible by surgical process to reach and destroy by antiseptics, germicides or otherwise, the bacillus tuberculosis, or whatever is the cause of phthisis pulmonalis?

DISCUSSION ON SURGICAL AID IN THE TREATMENT OF PULMONARY DISEASE.

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WHILE it is no doubt true that *old wood*, *old wine*, and *old friends* are the best and most reliable, yet this maxim cannot be made to include in the full sense of the expression—*old* surgical treatment of pulmonary diseases. It should be fully realized, however, that many of the so-called new ideas of our profession are found to bear the evidences of remote age when they are carefully examined. The present established surgical treatment of certain pulmonary diseases was considered and recommended by Hippocrates. This author wrote of abscess situated within and without the lung tissue. He described with conciseness the proper situation at which to open these abscesses; the suitable instruments for the purpose, and finally he recommended a method of draining and cleansing the cavities. However, it frequently happens that recommendations from an acceptably authentic source in all respects, and their adaption by those who look to the same source for inspiration and enlightenment, are not always to be found associated with each other. Long intervals of time elapse often after a seemingly inspired suggestion, before it is followed by a practical response from those who came after. This predisposition is, indeed, a wise one, since it leads to acts based on logical conclusions, rather than to those incited by the impulses of the moment. Notwithstanding Hippocrates was born about 350 years before the birth of Christ, still, his then phenomenally wise teachings in many respects, were not followed by a practical response until more than 2000 years thereafter. The authors of a hundred years ago expressed confidence in the teachings of Hippocrates on the subject of pulmonary surgery. The seed that was sown by this ancient medical philosopher, although it has been practically dormant for so many centuries, bids fair now, in our time, to take firm root, grow, bud and blossom, and bear fruit that shall commemorate the wisdom of the past and the enterprise and skill of the present time. But I am reminded that there are questions for discussion before this meeting bearing on the subject of pulmonary surgery, the first one being:

"Can surgery be made available in the treatment of pneumonia or other acute affections of the lung; if so, how?"

It is supposed that the propounder of the question had in his mind *operative* surgery in the accepted sense of the term, and also acute pneumonia when this question was asked. The foundation of rational medicine and surgery in the treatment of disease rests in the detection and removal of the causes of disease. Hence, before inquiring what surgery can do for the relief of these conditions, it seems proper to inquire first, how can surgical skill prevent them? The exact nature of acute pneumonia, whether it be a local disease, or a local manifestation of a constitutional disease, is not yet known. Surgery cannot, therefore, exercise a rational preventive influence against this disease; nor can the writer comprehend how operative surgery can exercise a practical influence in relieving a patient from the full effects of an attack of the disease. The considerations addressed to *traumatic* pneumonia occupy much space in many of the valuable works on surgery. To what is already written by others in this respect, the reader cannot add seriously any measure of practical importance.

Question 2.—"Can surgery assist in the treatment of abscess of the lung; and what is the safest and most effectual mode of reaching, evacuating and draining the abscess?"

Surgery *can* assist in the treatment of the lung, and surgery has assisted in the treatment of abscess of the lung centuries ago. Hippocrates himself laid down surgical principles of treatment in a clear and unmistakable manner. He taught that abscess of the lung should be opened; that it should be opened at the seat of the greatest pain and swelling and as low as possible; that the first incision be made with a scalpel: that the incision be extended with a bistoury. If the pleural surfaces be adherent to each other, the operation of reaching and evacuating an abscess of the lung is both simple and safe. If they be not adherent then the operation, though simple of performance, is fraught with danger to the patient from the escape of purulent products into the pleural cavity. It therefore follows that the existence or non-existence of these adhesions, should be determined before operative interference is attempted. It may be inferred that adhesions exist if the patient have had pleuretic pains at the seat of the abscess; if tumor be present; if fluctuation exist; if the surface be discolored; if impulse occur in the tumor with coughing or with any physical effort. However, if the abscess be situated deeply, or be suspected rather than recognized, and no pleuritic pains have occurred, it then becomes necessary (1) to locate the abscess; (2) to ascertain if pleuritic adhesions be present; (3), to evacuate and cleanse the cavity. An abscess can be located safely and surely (1), by a proper interpretation of the physical signs, aided by the character of the constitutional symptoms; (2), and finally, its existence can be determined positively by exploration with a hypodermic syringe or an aspirator. In connection with the introduction of the needle of either at the suspected side, the barrel of the instrument should be exhausted immediately after the point of the needle has penetrated the skin sufficiently to permit a complete suction influence. The needle ought to be introduced into the lung slowly, while the barrel of the instrument is carefully watched to detect the first entrance to it of fluid. By exercising this care the first few drops of pus that are withdrawn will be noticed, and the distance of the abscess from the surface can then be accurately determined by measurement of the portion of the needle remaining without the body. If the needle fail to reach pus with the first insertion, it can be as carefully reinserted without danger, in other directions, until pus is detected.

2. *Are pleuritic adhesions present?* Observation of the inserted needle will determine also if adhesions exist between the pleural surfaces. If these surfaces be not adherent, the outer extremity of the needle will describe the arc of a small circle, the radius of which will correspond in length with the external portion of the needle. This movement is caused by the inner end of the needle being pushed downward by the descent of the lung in inspiration, while the chest wall moves in the opposite direction at the same time. These reverse movements cause the outer end of the needle to describe the arc before-mentioned. If the surfaces of the pleura be adherent to each other, the needle will move only in a direction corresponding with that of the chest wall during the act of breathing. If the pleural surfaces be adherent, the evacuation of the abscess can be easily accomplished through an opening made by either a cutting instrument or by cautery, directed in the course taken by the needle. The needle may be permitted to remain inserted into the abscess to serve as a guide to it. The abscess ought always to be opened at the lowermost portion, even though it be necessary to remove a part of a rib to accomplish this purpose. If the pleural surfaces be not adherent with each other, and the immediate evacuation of the abscess be deemed necessary, the operation must then be conducted with great care, otherwise the purulent fluid will enter the pleural cavity and cause a general pleuritis of that side. Under these circumstances it is advised to map out on the chest wall with coloring substance the area of the pus accumulation. All the tissues comprising the chest wall of this area to the extent of at least one inch in diameter can then be removed or pushed aside down to the parietal pleura, which should be permitted to remain intact. The portions of ribs that fall in the line of this step of the operation should be carefully sewn through or trephined, and be raised carefully from the periosteum beneath them. The parietal pleura and the pulmonary tissue should then be sewn to each other firmly with catgut, around the point of the proposed opening. If permissible, the movements of the chest wall may be limited during and for several hours following this step of the operation by surrounding the thorax at the lower portion with a strip of adhesive plaster drawn tightly. This measure will limit the movements upon each other of the parts to be sewn to-

gether, and if it be continued long will aid formation fibrous union between them. If time will permit it to be done, the surfaces may be caused to unite with each other by the use of counter-irritation or puncture before or after the removal of the portion of the chest wall. The evacuation of the abscess having been accomplished, the questions of cleansing and draining the cavity then present themselves. The cleansing of the cavity must be conducted with great care, else the patient may be overwhelmed suddenly by a greater danger, that of suffocation from fluid introduced into the lungs through the abscess cavity—literally drowned. If air enter the abscess cavity by way of the lungs, fluids should not be introduced into the cavity. If, however, the walls of the abscess be impervious to the pulmonary air current, then a mild antiseptic fluid can be introduced with caution. On the whole, it seems to be safer to wipe or cautiously scrape out a cavity rather than incur the risk of the introduction of fluids into it. Antiseptic non-fluid applications to the walls of the cavity, combined with perfect and continuous drainage by means of suitable drainage-tubes, supplemented with dependent decubitus, must be zealously observed in the after-treatment.

Results.—Professor Roswell Park reports forty-six cases in which the lung has been incised—pneumotomy—for the treatment of bronchiectatic and tuberculous abscesses, with the following results: Twenty-three (23) bronchiectatic abscesses, with 9 deaths; 13 tuberculous abscesses, with 6 deaths. Thirty-two (32) hydated cysts had been treated in a similar manner, with 4 fatal results.

Question 3.—"What surgical process, if any, can help in the treatment of laryngeal phthisis?"

Severe laryngeal phthisis is characterized especially (1) by loss of voice; (2) often by profuse discharges from the diseased laryngeal structures; (3) obstructed breathing and expectoration.

(1) *Hoarseness.* Surgery, in the commonly accepted sense of the term, can offer no relief to the patient from this symptom. It is true, of course, that many of the means employed by those who treat especially laryngeal diseases are properly classed as surgical expedients; it is also true that the medical customs of the present time have relegated these expedients from the field of general to that of special manipulation.

(2) Profuse discharge from the diseased laryngeal structures downward into the bronchial tubes, and also upward by aid of cough and recumbent posture, is an evil of no small proportion. The presence of this discharge is annoying and often sickening, and the efforts to expel it cause fatigue. Moreover, it exposes the healthy pulmonary tissues with which it comes in contact to the danger of tubercular inoculation.

(3) *Obstructed breathing and expectoration.* In an advanced stage of the disease these symptoms not infrequently occur. I have in mind at present a case of this kind that my colleague, Professor Janeway, transferred to my care in the hospital for relief from these symptoms

by tracheotomy. The operation relieved the patient not only of obstructed breathing, but also afforded at once a free escape through the tube of purulent matter from the lungs by aid of coughing and other forcible expirations. In this case the upper extremity of the trachea was nearly occluded by ulcerating tubercular growths connected with the cavity of the larynx. I now feel certain that if I had done then that which occurred to me to do, viz.: had split the larynx in the median line anteriorly and removed the diseased contents, I would have rendered the patient a more complete and lasting service than could have resulted from the tracheotomy. I also believe that the present and subsequent dangers arising from the former would have discounted those of the latter operation. A step of this kind, however, could not be taken consistently except the prognosis of the case were bad in all respects. The surgical measures that are now employed in other conditions of a phthisical larynx are acquired assets of specialists of laryngeal disease.

Question 4.—" Can surgery be made effectual in draining tubercular cavities, and if so, how?"

Tubercular cavities of a lung can be opened in a manner similar to that already described under the consideration of abscess of the lung. The precautions enjoined in the latter instance should be sedulously observed in the opening of tuberculous cavities. The physical signs of abscesses and cavities in a lung differ materially from each other, but we cannot properly refer to the differences in a limited discussion of the question. It is undoubtedly true that the disinfection and drainage of tubercular cavities of a lung will in many instances cause a marked alleviation of the symptoms. But it is hardly to be expected that a cure of the local tubercular conditions can be accomplished, since the specific growths are too far disseminated from the abscess wall, and make up often such a proportion of its deep structure that little, if any, direct curative influence can be exercised. A tuberculous ulcer of the integument, one that can be treated with vigor, exhibits a degree of perverseness to the influences of both medical and surgical measures that portends illy for the successful treatment of a similar disease of the pulmonary tissue.

Question 5.—" Is it possible, by surgical process, to reach and destroy by antiseptics, germicides, or otherwise, the bacillus tuberculosis, or whatever is the cause of phthisis pulmonalis?"

In my opinion this question is easily answered—in fact, it is substantially answered already under the heading of the fourth question. The injection into pulmonary tissue and into cavities contained in this tissue of substances destructive of tubercle bacillus can be indulged in if one choose to make the attempt. But to consider it possible to cure in any appreciable degree the tuberculous condition itself by any such measure would seem to require a large increase of faith, with a corresponding loss of judgment.

I do not think it proven to the satisfaction of competent physicians that the injection of similar fluids into tubercular lung cavities has been productive of practical good, while the dangers attendant on the general acceptance of such a measure are certain to constitute a great evil.

By C. S. Wood, M.D., New York.

Runeberg reports ten cases of pulmonary abscess surgically treated. He excludes three of the number as of uncertain diagnosis.

Of the other seven cases, in four permanent improvement or complete recovery followed.

The other three cases were fatal, but the long delay in operating seems to have been a potent cause of the unfavorable results.

He remarks that a study of these cases would seem to indicate that in pulmonary abscess an operation is desirable, and the earlier it is done, the better the chances are for recovery.

Gangrene of the lung.—Out of seventeen cases, in seven there was recovery or marked improvement; in two of these, however, the improvement was incomplete, and the final result doubtful; two others only required a superficial operation like that for empyæmia.

There remain three cases with entire recovery, after an operation involving cutting into the lung itself, without which operation it would seem that the termination must have been unfavorable.

Of the ten fatal cases the operation itself does not seem to have materially influenced the result one way or the other, except in two; in one of these there was no adhesion of the pleural surfaces, and the resulting pleurisy certainly hastened death, which would have, however, occurred in any event, as there were several gangrenous foci in both lungs; in the second case the immediate cause of death was apparently a tracheo-bronchitis excited by irrigation with an irritating fluid.

Bronchiectasis without gangrene or clear tuberculosis.—Recovery followed in one case out of six; the other five proved fatal. A serious impediment to success, in these cases, is the fact that bronchial dilatations are seldom single and may be unconnected with such other; even if connected, the drainage of all is difficult to secure through an opening into one.

Tubercular cavities.—Six cases of these have been operated upon, and all died sooner or later, even though in some there was temporary improvement.

Hydotid cysts.—M. Dujardin-Beaumetz, in speaking of the use of carbolic acid in phthisis, remarks: "The absorption of the acid by the air passages being out of the question, the only means of administering it is by hypodermic injections and the alimentary canal—oral or rectal.

As the digestive organs are in such cases out of order, the skin and rectum remain the only sources by which the remedy can be introduced into the system, thereby avoiding any further irritation of the stomach. It has been much used of late in the treatment of this most intractable malady. The injection has been often conveyed to the point in the lung where the tubercular focus exists, or where an abscess has formed or is in process of formation. Drs. Lepine and True tried pulmonary injections of a 2 per cent. solution of creosote in tuberculosis, although they recommend iodoform in preference, as with the latter they obtained excellent results, in cases where an abscess had formed.

When using carbolic acid, a solution of 2 per cent. of the pure acid, dissolved in glycerine, is preferable. The spots where the injection should be chosen, on the anterior portion of the chest, below the clavicle. Under this treatment, they say, it will be found that in a large proportion of cases the appetite returns; the patients can leave their beds and walk out; the coughing and expectoration are diminished and the night sweats frequently cease. Unfortunately this period of repose, in the progress of the disease, is only temporary, as the bacilli are not destroyed, and soon the patient relapses into his former condition.

The aspiration of a tubercular cavity, and the injection of an antiseptic, like either of the three above-mentioned, undoubtedly favorably influences the progress of the disease and often prolongs life, aside from the temporary comfort given to the patient. But these surgical procedures can rarely be considered as curative agents.

However, as there is at the present time so much activity and interest taken in pulmonary surgery, it is well to note the reports constantly being made to us in the journals, as thereby we are the better able to predict the results in our own cases. Godlee, in the *Lancet*, has taken pains to summarize the subject, and gives us his conclusions as follows:

"Gangrenous cavities should always be sought, and if possible, be opened, and the prognosis, if the operation has been successful, is not bad." The same may be said in regard to abscesses caused by the rupture of purulent collections from other parts into the lung—at least as regards the pulmonary complication. Abscesses connected with foreign bodies must be opened, and if the body be not readily found, it must be remembered, if of any considerable size, it probably lies near the middle line.

Bronchiectatic cavities are rarely single, therefore, operations seldom afford relief, with our present surgical knowledge. Tubercular cavities should only be opened in cases where the cough is severe and the cavity single. Injections may be used to relieve symptoms, but cannot be expected to be curative.

G. Foubert, of Paris, has collected the various published cases, to the number of eighty pneumotomies—forty-seven recoveries, but twenty-nine of these successful cases were operations for hydotids, a comparatively simple and safe operation; tuberculous cavities in which there was an incision made, either with or without the resection of a portion of the rib—seven cases; in one case the patient is said to have recovered; in another the patient is said to have lived some time; in the remainder the patients have died; abscess of the lung—fourteen cases, with nine cures and five deaths; gangrene of the lung—eighteen cases, with nine cures, two ameliorations and seven deaths; bronchiectasis—twelve cases with four cures.

Inundation of the lung.—An Italian surgeon, A. Riva, now proposes to cure tuberculosis by injecting antiseptic fluids into the pleural cavity, thus completely flooding the diseased lung. With a modified Mohr's tube and aspirating needle an ounce of the antiseptic fluid selected is passed into the pleural sac. The injection should be made through the anterior portion of the second intercostal space. He claims that there is but little risk attending the operation, but mentions the possible dangers. First, wound of blood vessel and injection of antiseptic fluid into the same. Second, puncturing and injection of the bronchus, or the pulmonary alveoli. Third, the toxic action from absorption of the antiseptic agent employed.

In summing up the observations and reports of others, we may safely draw the following conclusions: That in abscess of the lung, whether gangrenous or not, it is advisable to first aspirate the cavity and then inject at the same time, and through the same puncture an antiseptic fluid of a kind that each surgeon may prefer, that if the abscess refills the operation must be repeated. That where a foreign body is supposed to be lodged in a bronchus, an opening should be made into the lung by the resection of a portion of one or more ribs, under strictly antiseptic precautions, and the foreign substance removed.

That the latter operation is fraught with but little danger is abundantly demonstrated by the results of similar operations during our late war, when a man would receive a penetrating wound of the chest, often carrying with the ball pieces of clothing, strips of leather, and sometimes of metal worn by the soldier. Oftentimes, especially at the battle of Fair Oaks, where the most of the fighting took place in underbrush four to five feet high, resulting in a disproportionate number of wounds of the head and chest. I have after removing blood, dirt and everything visible from the wound of entrance and then cutting out the ball, which was usually lodged under the integument of the back, on account of the cough, with bloody and purulent expectoration continuing for days, been obliged to open the wound, and where the bile was not fractured, remove a portion of one of them and extract from the lung some foreign substance which had been carried into it at the time of the receipt of the injury; and usually with a favorable result. But with our present knowledge there is but little encouragement in any surgical operations upon the lungs for phthisis which is greatly to be deplored when we reflect upon the fact that this insidious disease carries off about one-seventh of our population, or, rather, that the deaths from phthisis comprise about one-seventh of all deaths.

The reason why surgery in this field is so impotent is not difficult of comprehension. Tubercles are not confined to any one portion of the lung, although the aggregation may, and usually is, greater at the apex than elsewhere. Still the fact remains that before a cavity is formed requiring surgical treatment, other portions of the lung structure are involved. Even the pleura participates in the morbid process, and also more distant organs, as the stomach, liver, peritoneum, etc. In short, tuberculosis being a general constitutional disease, it naturally follows that surgery finds but little to accomplish, either in the prevention or cure of this formidable malady.

AVERY SEGUR, M.D., Brooklyn.

NOT having any experience to contribute to the discussion of the questions presented by Dr. North, I will not take your time with any suggestions of my own: the great importance of the subject carries its own interest to every mind.

I had the opportunity to hear the important paper of Dr. Williams and Mr. Godlee—"Cases of Bronchiectasis Treated by Paracentesis"—before the Medico-Chirurgical Society, London, in March 1886, and the discussion following.

It was then shown that life had been saved and health restored in cases reported by the authors, and as the *Lancet*, commenting on the paper remarked, "it may be regarded as marking a decided step in advance in the surgical treatment of suppurative disease of the lung."

I thought it would interest this meeting to have the points of a very practical treatment of the subject presented, but have been unable to find the volume of the *Med. Chirurg. Trans.* containing the paper, to refresh my memory. I have been obliged to copy for you the abstract, printed in the *Lancet* of March 27, 1886, as follows:

"Dr. Theodore Williams and Mr. Rickman J. Godlee communicated a conjoint paper on two cases of bronchiectasis treated by paracentesis, with remarks on the mode of operation.

The first case was that of a gentleman æt. 67 years, who had suffered for two years from chronic bronchitis and emphysema and six months later had dry pleurisy of the left lung. After the pleurisy the expectoration, before moderate, became profuse and somewhat fetid, the cough more and more harassing and although Malvern and Bournmouth were visited, and a great variety of antiseptic treatment was tried, he obtained no relief. On February 3d, he was seen by Dr. Williams, who noted the existence of a bronchiectasis in the lower lobe of the left lung, the pleura of which was adherent. Tubular sounds were heard over two small areas, neither exceeding a half-crown in circumference in the left interspace. At the request of Dr. Williams, a puncture was made by Mr. Godlee into the first area with an aspirating trocar and canula. Under antiseptic precautions the cavity was opened and a drainage tube inserted.

The result of the operation was that the cough nearly ceased, the expectoration, which was for a few days pneumonic, diminished from one pint a day, to a few pellets and became free from odor and the patient gained flesh rapidly. At the end of six weeks the discharge ceased, the channel closed and the wound healed up. Examination of the chest showed complete disappearance of tubular sound from the second area as well as from the first, and further shrinking of the chest wall. The patient, at the close of nine months after the operation remained free from cough and expectoration and was able to walk four miles " at a stretch".

The second case was that of a girl æt. 21 years, who, ever since an attack of typhoid fever, had had troublesome cough and copious expectoration, gradually increasing in quantity and becoming more and more fetid. She had had hæmorrhages three times; on one occasion amounting to a pint. Examination of the chest showed several bronchiectases, two of which gave rise to very course râles over areas about the size of a half-crown in the sixth and seventh interspaces in the axilla; a third area was detected in the eighth space below the scapula angle.

At first the patient improved under antiseptic treatment, the expectoration diminishing and becoming less fetid, but after a while these measures ceased to give relief, and an operation was decided on. On June 29th, at Dr. Williams request, Mr. Godlee passed a small exploratory trocar into each of the three marked spots and, obtaining no result, inserted a large-sized aspirating trocar and canula into the seat of the first puncture in the sixth interspace. But an attempt to cut down on the cavity failed.

A second operation was performed on July 16th, and after some exploratory punctures Mr. Godlee, with antiseptic precautions, cut down on, and laid bare the eighth rib, and excised about an inch of it in order to approach nearer the bronchi before attempting to open them. The trocar and canula were then passed to a depth of five inches, and Mr. Godlee cut down along the canula and inserted a drainage tube The wound gradually healed up and the patient left the hospital at the beginning of September, considerably improved, the cough slight, the sputum having diminished to about three ounces a day and being only occasionally fetid.

The presence of bronchiectases in other parts of the left lung, and possibly also in the right lung, precluded such complete success as was obtained in the first case.

A short account was then given of four other cases of bronchiectasis treated by tapping, in all of which the position of the cavities had been recognized and successfully punctured, but owing to other bronchial dilatations the success was only partial in these cases." (See original paper: *Medico Chirurgical Transactions*, Vol. LXIX., Cases of Bronchiectasis treated by Paracentesis, by C. Theodore Williams M. D. and Rickman J. Godlee, M. S., F. R. P. S.)

In the *Lancet*, 1887, March 5, 12, April 2, 9, are lectures by Mr. Godlee on the Surgical Treatment of Pulmonary Cavities, delivered at the Consumption Hospital, Brompton.

Mr. Godlee concludes his lectures in these words:

"To sum up the state of opinion at the present time with regard to the whole subject, it may be said—1. Gangrenous cavities should always be sought and, if possible, opened; and the prognosis, if the operation be successful, is not bad. 2. The same may be said in regard to abscesses caused by the rupture of purulent collections from other parts into the lung, at least as regards the pulmonary complication. 3. Abscesses connected with foreign bodies must be opened, and if the body be not found it must be remembered that, if of any size, it probably lies pretty near the middle line.

If possible these cases should be treated early by tracheotomy and incision. 4. Bronchiatitic cavities, when single, (a very rare condition,) will be cured by operation. When multiple (a very common condition,) they offer but small chance of relief by our present surgical methods, still for reasons stated, an attempt may be made to open the main one, if such is to be found, but only if the pleura has been ascertained to be adherent. 5. Tubercular cavities should only be opened in cases where the cough is harassing and the cavity single. Injections may be used to relieve symptoms, but cannot be expected to be curative."

In the last edition ,1887, of William's treatise on Pulmonary Consumption is a final chapter on "Antiseptic or Bacillicide Treatment."

It is a concise notice of what is being done at Brompton Consumption Hospital and elsewhere, in the most advanced line of our profession.

I quote "taking my stand on Klein's and Lingard's researches I have lately been trying sulphocarbolate of sodium, phenylacetic acid and phenyl propionic acid."

After remarks upon his experience with the internal administration of the above, he discusses intrapulmonary injections of antiseptic solutions into tubercular consolidations and cavities: "by no means a formidable matter and has never given rise to any formidable symptoms."

"Trial is being made of a number of these antiseptic solutions in this way, but in a matter requiring much caution and perseverance, it is not likely that we shall arrive at a satisfactory conclusion without long and patient investigations requiring not months but years."

NEW BOOKS AND PAMPHLETS.

THE PATHOLOGY, DIAGNOSIS, AND TREATMENT OF THE DISEASES OF WOMEN. By Graily Hewitt, M.D., London, F.R.C.P., Professor of Midwifery and Diseases of Women, University College, etc. A New American from the Fourth Revised and Enlarged London Edition. Edition with Notes and Additions. By H. Marion Sims, M.D., New York. New York: E. B. Treat, 771 Broadway. 1887. Price, $2.75 Per Vol.

This new American edition of Dr. Graily Hewitt's well known book is published in three volumes as a part of the Medical Classics. The other members of this series have already been noticed, and it is gratifying to see an English book of such high standing republished in this country. The American editor gives the following outline of the particularly interesting features of the book: "It insists on better nutrition. It advocates mechanical pathology of some forms of uterine disease, viz.: that pathological changes are produced by mechanical causes. The wood cut illustrations of uterine displacements are of life size, which is an aid to the beginner. We have long known that the nausea of pregnancy is a neurosis, a reflex symptom which the author shows very conclusively to be the result of some form of uterine distortion, and which is always relieved by appropriate mechanical treatment. He further demonstrates most satisfactorily that hysteria in all its protean forms is a uterine reflex symptom (not ovarian as has been generally supposed), dependent always on flexion or malposition, and that to remedy the latter is to cure the former."

Some of these declarations are doubtless extreme; but we can be sure that the author is giving us his views gained from a long and varied experience and not mere fanciful themes.

Neither the paper nor the wood cuts are up to the general standard of this publisher's work, but the type setting is, perhaps, better done than is that of the previous members of this series.

TRANSACTIONS NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1887. Vol. IV. Edited for the Association by Alfred Ludlow Carroll, M.D. Concord, N. H., Republican Press Association. New York: J. H. Vail & Co., 1888.

We do not know of a better way to judge of the value of a medical association than by the character of its publications. With this as a standard, the New York State Medical Association can present to any other a most enviable achievement. The volume before us contains about five hundred and fifty pages well printed and handsomely bound. Many, if not all, of the papers have already appeared in one or more of the medical journals of this country; but their value is enhanced by the fact that they are not seen as individuals only, but in connection with other papers read at the same time and bearing on the same subject or subjects.

It would take more space than is allotted us to enumerate the papers and their authors. The president's paper is on "Lupus of the Cervix Uteri and Female Genetalia," and is illustrated by twelve lithograph plates, most of which are colored. Typhoid fever and placenta prævia seem to divide the honors in the amount of attention paid them.

The volume is a great credit to the Association, and no small degree of its success is due to the ability with which it is edited.

THE APPLIED ANATOMY OF THE NERVOUS SYSTEM. Being a Study of this Portion of the Human Body from a Standpoint of its General Interest and Practical Utility in Diagnosis, Designed for Use as a Text-book and a Work of Reference. By Ambrose L. Ranney, A.M., M.D., Professor of the Anatomy and Physiology of the Nervous System in the New York Post-Graduate School and Hospital, etc. Second Edition. Rewritten, Enlarged, and Profusely Illustrated. New York: D. Appleton & Co. 1888.

THE RELATION OF ALIMENTATION AND DISEASE. By J. H. Salisbury, A.M., M.D., LL.D., Member of the Philosophical Society of Great Britain, etc. New York: J. H. Vail & Co. 1888.

MISCELLANEOUS.

BURIED ALIVE.—The French correspondent of the *London Lancet* says: A report has just reached Paris that the body of the man referred to in my letter of last week, in the paragraph headed "Buried alive," has been reached by removing the earth from above him. The medical men, on examining the body, attributed death to the poor fellow having been crushed by successive falls of earth upon him, and to the wounds caused to his head by the rings of iron that were placed to protect the sides of the well; but they state that he certainly did not die of hunger. What struck the medical men was the absence of cadaveric rigidity. In extricating the body from the earth the workmen were surprised at the suppleness of the limbs. The face was partially covered with sand; the nose, partially crushed, was pushed to the left; two large patches of ecchymosis were to be seen on the forehead; the eyes were half opened; the arms were crossed over the chest; the right leg was slightly doubled up; the lower part of the face on the right side was much bruised; the hair was white and long. At the necropsy the stomach was found to contain no vestige of food, and one of the lungs was absolutely congested. No fracture of the limbs. It is believed, from the above observations, that death had taken place on May 2nd—that is to say, twelve days after the accident. It would appear from reports published that he had escaped from five similar accidents, but has succumbed to the sixth. In connection with this case the following note may be found interesting. On the 2nd of September, 1836, a similar accident happened to a well-sinker, who was employed in sinking a well in a sandy soil in the Commune of Champ-Vert, near Lyons. He had come up, but had forgotten his tools, which he left at the bottom of the well of twenty metres. In spite of the warning given him, he went down to fetch his tools, but before he could be drawn up again, a falling in of the earth, which was anticipated, took place. Believing that the man was lost, his companions were about returning to the village to report the circumstance, when they remarked that one of the cords which had been drawn up from the well had been newly cut. From this they concluded that the man was alive, and without losing a moment they commenced the work of deliverance. This lasted two weeks, and it was only on September 16th that the man, whose name was Dufavet, was brought to the surface. He was in a deplorable state, but with judicious care was restored to health in less than a week. He related all the details of the situation in which he was placed. For the first three days the space in which he was confined measured a little more than two metres, but after further falling of the earth it was diminished progressively, so that from the third day the man was obliged to remain doubled up, and he could not even extend his arm. In this position he was threatened each moment to be crushed by a fresh falling in of the earth, and during this time he was entirely without food. He was thirty years of age.

CASCARA SAGRADA IN RHEUMATISM.—In a communication to the New York *Medical Journal* from H. T. Goodwin, M.D., Assistant Surgeon U. S. Marine Hospital Service, it is claimed that cascara is almost a specific remedy in certain forms of rheumatism. The effect was discovered by accident during an attack of the disease upon his own person. The remedy was begun on third day of the disease as a laxative in ten drop doses. Much relief was experienced the following day.

He has since used the cascara in fully thirty cases, some ten of which were out-patients, and with the exception of three or four, in which there was a syphilitic taint, he obtained the most satisfactory results. His experience appears to have been confined to the subacute variety of the disease. He used the fl. ext. in ten or fifteen drop doses three or four times daily, usually in combination with glycerine.

METHOD OF IDENTIFYING CRIMINALS.—The anthropometrical method of identifying criminals, originating in Paris, has been adopted in the prison at Joliet, Ill. In addition to the photograph of the prisoner, accurate measurements of his height, the length and width of his head, the length of the left middle and little finger, of the foot, the forearm, the ear, the stretch of the arms, description of scars, color of eyes, and so on, are recorded; and it is thus possible to identify prisoners assuming false names with far greater ease than was before possible. It is asserted that in the two years that the system has been in operation in Paris, 826 habitual criminals arrested under assumed names have been identified. Besides the practical utility of the system, it amasses very valuable statistical data contributing towards the natural history of the criminal classes.—*Science*, March 30, 1888.

THE POSOLOGY OF QUININE.—Mr. Thomas Christy has received a letter from a Ceylon correspondent which throws a strong light upon the above subject. The writer had been trading in the island named, during the wet season, and caught an obstinate ague, which resisted the ordinary treatment with quinine. The patient then went to Newara Eilgie for the sake of change, and, being again attacked, called for the services of the assistant military surgeon of the station. This practitioner laughed at the account of the dosage of the alkaloid tried, and prescribed two half-spoonful doses of the sulphate in sherry, which effected a complete cure. Accounts of other cases are also given, including that of an English lady who suffered from ague and shivering constantly, even in the hottest weather of England. She was quite cured in a week by somewhat smaller doses than the above, and even faced a winter without any fear. Similar quantities of the medicine are recommended in low fever, and when taken in sherry or brandy on waking are stated to produce a delightful and lasting glow in the body, which smaller doses are powerless to effect. No unpleasant after-symptoms have been observed. The writer also calls attention to the circumstance that the same amount of quinine in pill or powder will not bring about the same happy result, and suggests that the differences in the therapeutic action referred to are worthy of more study.

EXPERIMENTS IN IMPLANTING TEETH.—Dr. Younger, of San Francisco, has demonstrated that it is practicable to replace lost teeth, even after the socket has been filled up with bony substance. He simply drills into the jaw, gouges out a new socket, and then, taking a foreign tooth that has long been extracted, cleans it thoroughly, soaks it in bichloride of mercury and inserts it in the socket thus artifically formed. Describing this process, *Science*, March 23, states that Dr. W. M. Gray, the microscopist of the United States' Surgeon General's office, has examined a tooth which had been implanted by Dr. Younger's method and then extracted. Dr. Gray's microscopical examination shows beyond question that the tooth so implanted is actually revived, that circulation is established between the socket and the implanted tooth, and that the socket takes an active part in anchoring the tooth. Dr. G. M. Curtis, of Syracuse, N. Y., has successfully repeated Dr. Younger's experiment, and found that a tooth which he had implanted was so firmly anchored that it broke when he was extracting it. As good teeth are indispensable to proper mastication, and hence to nutrition of the body, the discovery of means for replacing them when lost is a very valuable contribution to dentistry.—*Med. and Surg. Reporter.*

Copaiba in the Treatment of Croup.—Dr. P. H. Thompson, Bluffton, Ga., writes: "About fifteen years ago, while a student of medicine, my attention was arrested by an article in the *Medical and Surgical Reporter*, advising the use of copaiba in croup. For the last six years I have had very gratifying and unfailing success with all cases of croup, and among the number treated I feel sure that some few at least were cases of that dreadful type called membranous. I have given the balsam in various combinations, sometimes simply emulsionized.

The following mixture, which no doubt can be improved, has been used with pleasing results to myself and patrons:

℞	Bal. Copaib - - - - -	f℥i.
	Pulv. Acaciæ - - - - -	℥ss.
	Syr. Squillæ - - - - -	f℥i.
	Aquæ Menth. Pip. q. s. ad. - - -	f℥iv.

M. Sig.—Dose one teaspoonful every two or six hours.—*Atlanta Medical and Surgical Journal.*

Strychnine in Alcoholism.—The good results obtained from strychnine in dipsomania by N. M. Popoff, V. A. Manassein, Partzevsky, Tolvinsky, and Zavadsky, have induced Dr. S. Jaroshevsky (*Meditzinskoie Obozrenie*, No. 4, 1887, p. 332) to undertake an experimental inquiry into the antagonism between the alkaloid and alcohol. From experiments made on dogs, Dr. Jaroshevsky feels justified in drawing the following conclusions: 1. Strychnine undoubtedly neutralizes the intoxicating and narcotic effects of alcohol. 2. It enables large quantities of alcohol to be taken for a considerable stretch of time without causing the usual organic lesions which follow the use of alcohol alone. 3. There are, however, limits beyond which the alkaloid itself becomes injurious to the organism. 4. Therapeutically, strychnine should be used in all forms of alcoholism. 5. It may be regarded as a powerful prophylactic against alcoholism.

Insomnia Treated by Food, Baths, and Exercise. A Personal Experience.—Dr. W. G. Eggleton (*Journal American Medical Association*) gives the following bit of personal experience:

"Since the age of eighteen I have been more or less troubled by insomnia, and nothing has ever given such decided relief as a course of hearty meals just before going to bed. When the temporary insomnia has been relieved by this, I continue the sponge-baths and exercise before going to bed; but sleeplessness often returns after a sustained degree of mental labor and excitement, and is almost immediately relieved by a generally hearty meal before going to bed. At nineteen years of age, while a student of medicine, I was dosed for this condition with every then-known hypnotic, without any preceptible effect. Accidentally I found that after eating late at night I slept well; and I now make it a rule never to go to bed hungry, and always to eat at night when I am in the midst of an unusual amount of work, or engaged in work of an unusually exciting character.

"I have had to deal with only two cases of insomnia in old people. In both these cases they had been advised to take a "night-cap" before going to bed. At first the remedy was efficacious, but in a short time it was found that the quantity of alcohol in the "night-cap" had to be increased, or it had no effect, and finally an excessive quantity of alcohol was demanded. I rapidly diminished the quantity of alcohol as the amount eaten was increased, until, with the aid of a full supper and no alcohol whatever, the sleep was plentiful and much more refreshing than before. I do not know of anything which will more readily impair a digestive apparatus than alcohol on an empty stomach. Further than this, one runs the risk of inducing the alcohol habit by prescribing it in this way; and it must be acknowledged that the drowsiness induced by alcoholic drinks will not pass into a natural and calm sleep; and artificial sleep is only demanded when a patient is positively ill. A cup of hot beef tea (made from some good extract of beef) taken just at bed time, will often be sufficient to cause a good natural sleep.

"There is a popular superstition that grown people should not eat immediately before going to sleep; that it will give them indigestion or "night-mare," or both. I cannot see why adults are so very different in this respect from babies. We know that young children awaken at night and must have something to eat before they will sleep quietly, and some children actually fall asleep with a nursing bottle leaking into the mouth. It may be true that digestion is carried on slowly during sleep, and that the digestive function is less active; but here none need be in a hurry for the completion of the operation. The average person should be in bed seven or eight hours, which is time enough for the digestion of almost anything edible. In our American city life, I think that digestion carried on during sleep probably has the better chance for thoroughness."—*Am. Lancet.*

PATHOLOGY AND TREATMENT OF PERTUSSIS.—Dr. Edmund Wendt draws the following conclusions at the close of a paper on this subject:

1. There is constantly associated with whooping-cough a special micro-organism, discovered by Afanasieff.
2. This microbe is a small bacillus, having properties that distinguish it from all other known bacteria.
3. The "bacillus pertussis" (*bacillus tussis convulsivæ Afanasieff*) can be readily demonstrated in the sputum of patients having the disease.
4. While its etiological significance appears established, it does not possess much diagnostic importance, since it is found only after the clinical features of the disease are already well marked.
5. The treatment of pertussis has not yet been materially advanced by this discovery.
6. Antiseptics locally applied do not appear to shorten the duration of the disease.

7. Hygiene and judicious alimentation are, in the present state of our knowledge, of, at least, equal importance with medicinal treatment.

8. Antipyrin and the bromides are reliable symptomatic drugs, and are devoid of danger.

9. A specific has not yet been found.

10. Abortive forms of pertussis may occur, but no plan of treatment now known can claim to have abortive efficacy.

Although I have deprecated the habit of recommending particular drugs on the strength of gratifying personal experience, I cannot refrain from alluding to the use of antipyrin in pertussis. Dr. Sonnenberger, of Worms, was the first to call attention to this new drug in the treatment of whooping-cough. He claimed such surprisingly good results from its employment that my sceptical faculty was immediately fanned into activity. Nevertheless, so far as my own limited experience goes, I must own that antipyrin has with me a better record than any other one drug. I can claim no cures from antipyrin. But what the drug has appeared to me to favor, was an easy course of the disease to final recovery, a mitigation of the paroxysms, especially at night, possibly a reduction in their numbers, and certainly a freedom from complications. This is higher praise than I can conscientiously bestow upon any other method of treatment. But I am far from claiming as much as Sonnenberger, for antipyrin, that author asserting it to be distinctly curative. As to the method of its employment, I have followed the directions of Sonnenberger, who gives one-seventh of a grain to very young children, and gradually increases the dose according to the age of the child. To adults he gives fifteen grains. The medicine is administered three times daily, and sometimes once during the night. Children take it readily when dissolved in a little water and raspberry syrup. The remedy should be continued throughout the attack.—*Medical News*, June 2, 1888.

PHENIC ACID TREATMENT OF VARIOLA.—Dr. Montefusco, of Naples, who during the past two years, since small-pox has been so prevalent, has had excellent opportunities to observe the effects of remedies, writes in the *Bulletin Général Thérapeutique*, April, 1888, that he has found phenic acid as a local application of value in calming local pains and exercising a beneficial effect on the course of the eruption. It is, however, as a remedy for internal use that he praises phenic acid, the adult dose being from one to two drachms in the day, well diluted. The first effect noted is upon the temperature—after a half-gram dose the temperature begins to fall and may go down two degrees. The number of heart beats is at the same time diminished but the force of the beat is increased. This remedy is the only one of many tried by the author which exerts a sure influence on the eruption itself. This influence consists in the moderation of the extension as well as upon the duration of the eruption. The production of pus is limited and the period of suppuration is shortened. Even when the eruption is confluent this modification is evident. The pustules dry up in a few days and are never accompanied by an extensive swelling of the subcutaneous connective tissue. Hæmorrhagic small-pox is not benefitted to any extent by this treatment. The good results are explained by the antiseptic properties of the drug. In no case were there any symptoms of intolerance of the dose or poisonous effects noted, but on the contrary the general condition and feelings of the patients were improved. Albumen in small quantities was occasionally found in the urine, which would become darker after exposure to the air for a time, because of the acid eliminated in it. Nervous affections contra-indicate the remedy's employment.

THE EMPLOYMENT OF ELECTRICITY IN ATROPHY OF THE MAMMARY GLANDS (Jordanis, *Bulletin Gen. d. Therap.*)—According to the writer, very satisfactory results may be obtained in those cases where, after delivery, the mammæ are small and shrunken and do not secrete milk. In a case reported, the patient had been confined eight days, but the child was not put to the breast, as it was small and not secreting milk. Electricity was applied, and after a few séances the breasts became firm, large and rounded, milk was secreted, and the infant was suckled. The improvement was lasting. The faradic current was used. The positive pole was placed over the breast, but the intensity of the current was not noted.—*Edinburgh Medical Journal*, May, 1888.

THE ADMINISTRATION OF MEDICINE TO CHILDREN.—Jacobi writes as follows on this subject in the *Archives of Pediatrics* for May, 1888: "In the administration of medicine excitement on the part of the patient must be avoided; the nervous system of infants and children loses its equilibrium very easily. Fear, pain, screaming and self-defense lead to disturbances of circulation and waste of strength. Preparations for local treatment or the administration of a drug must be made out of sight, and the latter ought not to have an unnecessarily offensive taste. The absence of proper attention to this requirement has been one of the principal commendations of 'homœopathy,' whatever that may have been, the last twenty-five years. Still, the final termination of the case and the welfare of the patient are the main objects in view, and the choice between a badly-tasting medicine and a fine-looking funeral ought not to be difficult. In every case the digestive organs must be treated with proper respect; inanition is easily produced, and vomiting and diarrhœa must be avoided. The most correct indications and most appropriate medicines fail when they disturb digestion; it is useless to lose the patient while his disease is being cured.

"The administration of a medicament is not always easily accomplished. Indeed, it is a difficult task sometimes, but one in which the tact or clumsiness of the attendants has ample opportunities to become manifest; for 'when two do the same thing, it is by no means the same thing.' Always teach a nurse that a child cannot swallow as long as the spoon is between the teeth; that it is advisable to depress the tongue a brief moment and withdraw the spoon at once, and that now and then a momentary compression of the nose is a good adjuvant. That it is necessary to improve the taste as much as possible need not be repeated. Syrup will turn sour in warm weather, glycerin and saccharin keep; the taste of quinine is corrected by coffee (infusion or syrup), chocolate and 'elixir simplex,' a teaspoonful of which, when mixed each time before use, suffices to disguise one decigramme—one and a half grains—of sulphate of quinia. Powders must be thoroughly moistened; unless they be so, the powder adhering to the fauces is apt to produce vomiting. Capsules and wafers are out of the question because of their sizes; pills, when gelatine-coated, or otherwise pleasant and small, are taken by many. The rectum and nose can be utilized for the purpose of administering medicines in cases of trismus, cicatricial contraction, or obstreperousness. Both of these accessories it may become necessary to resort to for weeks in succession."

COMPARATIVE STUDY OF THE ACTION OF VARIOUS DRUGS ON THE HEART.—At the Italian Medical Congress held at Pavia, Dr. Rummo and Ferranini read a paper on this subject. They have made experiments in the laboratory attached to Dr. Cantani's *clinique* on frogs, toads, crustacea, guinea-pigs, rabbits and dogs, with the view of determining the precise mode of action of those drugs which have a definite effect on the heart. They used the graphic method throughout, and the drugs which they experimented upon were: Digitalis, digitalin, strophanthus and strophanthin, upas antiar, helleborin, erythrophlœine, oleander, sparteine, caffeine, adonidine and convallamarine. They observed that these drugs first diminished the frequency of the pulsations and augmented the blood pressure in all animals (homothermic and heterothermic), whereas in a second stage, especially when the doses were toxic, they disordered the rhythm of the heart and diminished the blood pressure. In the third stage a diastolic pause of the cardiac action, after the use of all the drugs, supervened in heterothermic animals, whereas in the homothermic ones the heart stopped in the systolic phase only after certain drugs, such as digitaline, strophanthus and strophanthine, helleborine, erythrophlœine, upas antiar, oleander. Adonidine and convallamarine, however, produced in these animals, even in small doses, a diastolic pause of the cardiac action. Sparteine and caffeine, on the other hand, had no great influence on the blood pressure. As regards the mode of action of the drugs used, it must be remarked that strophanthus and strophanthine, helleborine, digitalis, erythrophlœine, upas antiar and oleander chiefly influenced the heart muscle; and in the second place, the cardiac nerves. Adonidine and convallamarine simultaneously influenced the cardiac muscle and the cardiac nerves, whereas sparteine, and particularly caffeine, chiefly affected the cardiac nerves, and the heart muscle little or not at all. All those drugs which augmented the blood pressure did this by means of a combined mechanism, as they simultaneously increased the systolic energy of the heart, and produced narrowing of the peripheral blood-vessels by irritation of the vasomotor centres. The experimenters, furthermore, tried to answer the question whether those drugs which had a particular influence on the cardiac muscle had also an effect on the striped muscles in general, and whether those which influenced the cardiac nerves could also produce a similar effect on the whole nervous system. They found that only those drugs which chiefly influenced the cardiac nerves produced also, to a certain extent, disturbances in the nervous system in general.—*British Medical Journal*, March 10, 1888.

MEDICAL NEWS AND NOTES.

AT the last meeting of the Royal Medical and Chirurgical Society, London, Sir Spencer Wells recorded a successful case of splenectomy.

The patient was a young unmarried woman æt. 24 years, the spleen was greatly enlarged with a long attachment. It was only the fourth time he had performed the operation, and he expressed himself in confident terms as to the ultimate success of this operation.

SIR ANDREW CLARKE has succeeded Sir William Jenner as President of the College of Physicians, London.

SEXTUPLE.—Not very long ago an event occurred at Castagnola, in the Canton of Tessin, Switzerland, which is without parallel in authentic history. Madame Rezzonico, wife of the Syndic of the above place, gave birth to six children, four boys and two girls. The entire half-dozen were born living, but died in a very short time. The mother is thirty-eight years of age and has had several multiple births, the children being still living. The authenticity of the above occurrence is vouched for by a number of physicians from Milan, Como and other adjacent towns who visited the woman in order to obtain the most exact information concerning this unique obstetrical event.

AS we are going to print we learn with regret of the sudden death of Dr. A. Y. P. Garnett, of Washington, D. C. More lengthy obituary notice will be given later.

WHAT MEDICAL MEN SAID OF ANÆSTHETICS FORTY YEARS AGO.—Commenting on the reports of the first use of ether as an anæsthetic in surgery, the Philadelphia *Medical Examiner* expressed the views of the conservatives in the following terms: "We are persuaded that the surgeons of Philadelphia will not be seduced from the high professional path of duty into the quagmire of quackery by this will-o'-the-wisp. * * * We cannot close these remarks without again expressing our deep mortification and regret that the eminent men who have so long adorned the profession in Boston, should have consented for a moment to set so bad an example to their younger brothers as we conceive them to have done in this instance. If such things are to be sanctioned by the profession there is little need of reform conventions, or any other efforts to elevate the professional character; physicians and quacks will soon constitute one fraternity."

DOCTORS who wish to report their cases in the journals are compelled to be very careful in France. The Criminal Court of Besançon has recently fined an alienist $100, and compelled him to pay the family $400 damages for having described, under the title, "An observation on rational lunacy" (*folie raisonnante*), a case in such a manner that the identity of the patient was discovered.

THE AMERICAN RHINOLOGICAL ASSOCIATION will hold its sixth annual meeting at Cincinnati, September 12, 13 and 14, 1888. Dr. C. H. von Klein, of Dayton, Ohio, is President and Dr. John North, of Keokuk, Iowa, Secretary and Treasurer.

THREE lepers died in the lazaretto at Tracadie, New Brunswick, Canada, last year and three new cases were admitted. There are at present eight males and nine females. One male patient escaped to the United States and was recognized in Boston.

A NEW YORK physician perpetrated the following:

Pulv. opii (folia) fresh,	ʒiij.
Liq. Phimbi sub. acet,	ʒii.
Aqua,	℥viii.

M. ft. lotio.—*Pharm. Record.*

THREE nationalities claim the honor of the discovery of chloroform, and all are probably entitled to it. Liebig, in Germany, published the discovery in November, 1831. Soubeiran, in France, published a paper on "ether bichlorique" in the *Annales de Chimie et de Physique* for October, 1831, which was not issued until January, 1832. Dr. Samuel Guthrie in America published an article in the October number of the *American Journal of Science and Art* for October, 1831, on "a new mode of preparing a spirituous solution of chloric ether," in which it is stated that he has been experimenting at least six months with the compound described as "chloric ether," which was in fact chloroform. To our countryman, therefore, belongs beyond question the honor of priority in the discovery of the prince of anæsthetics.—*The Pharmaceutical Era.*

THE Dutch Scientific Society, of Harlem, has awarded Virchow the Boerhave Medal for Anthropology.

DEATH OF DR. FOTHERGILL.—A cablegram from London announces the death of the eminent medical writer, Dr. J. Milner Fothergill. For many years Dr. Fothergill has been one of the most prominent writers and original observers upon medical subjects in the profession.

AT the celebration of the 800th anniversary of the University of Bologna, June 13, the degree of Doctor of Medicine was conferred by the University upon S. Weir Mitchell, of Philadelphia, and upon Sir Spencer Wells, of London. Mr. Huxley received the degree of Doctor of Science.

DR. B. E. HADRA has accepted the Chair of Surgery in the Texas Medical College, and has removed to Galveston.

DR. KARL KILCHER, assistant in the Bohemian Laboratory of Pathological Anatomy, died of blood-poisoning, which he suffered while investigating the blood of typhus-fever patients.

DR. SQUIBB says that a very good way to give iodine is by inhalation of iodide of ethyl. Iodine is found in the urine within fifteen minutes after the same number of inhalations.

DR. BENJAMIN KING, one of the oldest officers on the retired list of the army, died June 24th, in his ninety-second year. He was graduated from West Point in 1807 and served in the War of 1812. He acted as Surgeon in the Seminole war and in the Mexican war. He was put upon the retired list about twenty-seven years ago.

PROF. DONDERS has directed that the memorial fund of 57,000 marks ($14,250), collected by his friends and admirers on the occasion of the anniversary of his seventieth birthday, be devoted to affording means for promising students of the University of Utrecht to continue their studies in ophthalmology and physiology.

THE *British Medical Journal* of June 23d, in commenting on the late Emperor's case, says, "We understand that the illustrious patient had thoroughly made up his mind not to submit to any operation that might shorten his life or destroy his voice. This decision was altogether independent of medical advice, though it was afterward strengthened, as was natural, by the negative results of Sir Morell Mackenzie's clinical and Virchow's pathological examinations."

BY the will of the late Dr. Rachael L. Bodley, one of the Faculty of the Woman's Medical College, the testatrix bequeaths all her scientific books and six cases containing her herbarium and dried plants to the Woman's Medical College. The balance of the books in her library and the walnut cases containing them go to the Presbyterian House for Widows and Single Women. Dr. Bodley left an estate valued at $10,000.

THE NEW YORK POLYCLINIC HOSPITAL.—The faculty of the New York Polyclinic have decided to increase the clinical facilities of this institution by establishing a spacious hospital immediately connected with the college building. It will be opened for the reception of patients in October next.

TRANSPLANTATION OF CORNEA.—This operation has been frequently performed but hitherto without success. Various cases have been recorded by Power, Sellerbeck and others, in which the new cornea taken from cat or dog, the eye of which is preferable to that of the rabbit, has formed adhesions and retained its transparency for some days or weeks, but sooner or later the new cornea becomes hazy contracts to a button, and is finally absorbed or sloughs out, and the patient remains unimproved.—*The Lancet.*

BILLROTH ON MACKENZIE.—Dr. Billroth in a letter to a German daily paper says:

"With reference to your request for my opinion on Mackenzie, I can only reply that I have always warned people against passing a judgment on a man who, as a physician, occupies so difficult a position. I have never doubted the correctness of my Berlin colleagues, but I have also never been able to understand what political reasons made it necessary to communicate this diagnosis to the whole world. It cannot be admitted that Mackenzie with his vast experience has ever doubted the correctness of this diagnosis. If he behaved in such a way as to imply that he had some doubt as to the diagnosis, this could only be owing to pressure from above or from motives of humanity. I know such situations from my own experience; one is not inclined to disapprove the statement of one's *confrères*, but at the same time one is not inclined to tell the patient that his malady is incurable, for the known want of infallibility in medical diagnosis is almost the sole ray of hope to the unfortunate incurables. Falsehood in such cases becomes a moral act. The entire hehavior of Mackenzie must, no doubt, be judged from this point of view. He did as a man and physician what was still possible to be done when the unfortunate word 'cancer' had already been pronounced. In much the same terms as these I have on different occasions expressed myself as to Mackenzie's conduct. I ask you to consider this as a private communication, at least until the sad catastrophe has occurred in Berlin.

Yours most respectfully,
DR. TH. BILLROTH."

PENGAWAR DJAMBI, A NEW HÆMOSTATIC.—We have long used it in the physiological laboratory of the University of Pennsylvania as a hæmostatic. It was originally brought to us by Dr. Lauterbach, who had learned the value of it while working in the laboratory of Dr. Schiff, at Geneva. To the physiological surgeon it is extremely valuable on account of its power of rapidly coagulating blood and forming a plug, which for the time being will stop hæmorrhage even from large venous vemes. Thus, in opening up the spinal cord there is usually an excessive outpouring of blood from the torn sinuses, an outpouring which at once he assisted by stuffing pengawar djambi into the wound. It is free from irritant properties, and we see no reason why it could not be made the bearer of antiseptic substances. Under its influence we believe that any cut surface would rapidly dry, and we trust that some of our surgical readers will make a practical list and report the results in our columns.—*Therapeutic Gazette.*

MR. W. WALKER, surgeon, of Willington, Co. Durham, finds himself in a very unpleasant position through the untoward death of one of his patients in child-bed. According to independent medical evidence given at the coroner's inquest, death was the result of blood poisoning following laceration, and it was suggested that Mr. Walker's treatment was not altogether what it should have been. Although the coroner said he hardly thought the case was one to go to trial, the jury returned a verdict of manslaughter against Mr. Walker, and he would have been arrested the same evening, but on the police visiting his residence they could get no intelligence of his whereabouts.—*London Hospital Gazette.*

CATS AND DIPHTHERIA.—The alarming discovery has been made that in addition to their other misdeeds—such as drinking the lodger's wine, etc.—cats are undoubtedly most indefatigable propagators of infectious diseases, their particular fancy being diphtheria. This important discovery has been made by Dr. Low, one of the medical officers to the Local Government Board, who has established—to his own satisfaction at least—that the recent epidemic of diphtheria at Ealing, has been in no small degree due to cats. "No cat," says the *Saturday Review*, "after the publication of Dr. Low's memorandum, can shelter himself behind the miserable plea of ignorance from the duty of at once answering the charge that, whatever may be his recreations and amusements, his serious business in life is the spread of diphtheria. It is the more courageous in Dr. Low to state this, because certain Irish-American cats are more than suspected of having attempted to blow up the premises of the Local Government Board with dynamite five years ago. Undeterred by these lucid memories, Dr. Low charges into the ranks of our future tyrants with desperate determination. He accuses them, not by insinuation or innuendo, but in plain and unmistakable terms of having caused an epidemic of diphtheria at Ealing. The method in which this detestable plot was carried out is truly diabolical. A number of associated cats, whom Dr. Low, for obvious reasons, abstains from naming, conspired to eat the remnants of the food, and drank the remainder of the milk, which had been served to diphtheritic patients. Thus primed for their horrible work they selected a number of healthy children with whom they began to play. The children were particularly attentive to the cats because the cats appeared to be unwell. Such is the lot of children, who never tease animals, though animals are constantly teasing them. We draw a veil over the sequel, merely remarking that Dr. Low, as becomes his high position, has no doubt that the children were infected in this precise way. . . . Meanwhile it is desirable that criminal cats should be brought to justice, and that contaminated articles—edible, potable or otherwise—should be destroyed." This last sentence is the practical application of the lesson, and whether Dr. Low is right in his conclusions or not, all who own cats and have children whom they love will bear it in mind.—*London Hospital Gazette.*

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EDITORIALS.

THE May number of the *Southern Clinic* contains the first of a series of biographies of Virginia physicians of olden times, by Dr. L. B. Anderson, of Norfolk, Virginia. Dr. Anderson's object is to rescue from oblivion the memories of many physicians distinguished in their time, generation and locality, whose good deeds and qualities are remembered only by a few, whose professional reputations were restricted to the section in which they practised. Unquestionably, many a professional man has gained great success unknown by any save his immediate friends and his constituents, and they *may have* possessed knowledge and qualities that would have rendered them famous had they placed their habitation in the great world on a hill, and not been content to hide themselves beneath a bushel.

We can only know what has happened. No man can say what would have happened had circumstances been different. Gray's "Elegy" is filled with speculative philosophy, and no man will deny that full many a flower blooms unseen, or that many a gem is hidden beneath the ocean; but it is questionable whether another Cromwell will ever live, even guiltless of his country's blood. The law of the equivalence of energy demands that so much energy beget so much work, but that does not take cognizance of the direction in which the energy is exerted. The world is certainly increasing its knowledge every day; the generation of to-day knows more than any generation of the past. Men's brains are not so much increasing in capacity and depth as that the methods instituted by science are teaching men to accumulate and formulate knowledge; but it cannot be denied that generations of successive culture and learning will culminate eventually, all physical conditions being equal, in a race of men of greater brain capacity than the original generation.

Now, the men of the time of which this biographer speaks were unquestionably men of good education; they were taught the principles of sound thinking, and had this backed up by a deep knowledge of certain departments of learning, eminently the Greek and Latin classics.

Many of them were intellectual giants among their fellows, and their logical methods of thought gave their opinions in all matters where the facts could be arrived at the greatest weight. They practically lived ahead of their time, and many of them won the reputation of being odd by virtue of this. Physicians were then few in number, and no one pretended to be a physician who did not possess a good education; now, we all know what a sad inroad has been made on medicine by ignorance and charlatanry. The question raised by the biographer, whether the men of those days did not use their limited resources with more skill and good success than is done now by their successors, with all the discoveries and additions that have been made to science, is not permissible; or, if so, is permissible only by comparing those men with the ignorant ones of this day and generation.

There are minds to-day equally as gigantic, equally as analytical as any of that day; to this is added the knowledge of the past and the advances of the present. To assume, therefore, that more success was met then than now in the treatment of disease is to assume degeneration in the human mind. There is nothing to indicate such degeneration. The descriptions that have been given us of disease in the beginning of this century proclaim generally a more virulent form than is met now.

There is nothing surprising in the fact that there is a difference, seeing that nothing stands still, but that everything retrogresses or progresses; moreover, the prophylactic method of treatment, hygiene, sanitation and the discovery of a few specifics, have undoubtedly modified the majority of diseases. For the treatment of yellow fever, diphtheria, typho-malarial fever and typhus, we regret to say, nothing new of great advantage intrinsically has been discovered. Our views of the etiology of these diseases have, however, been modified, and as the first principle of intelligent treatment is the recognition of cause, a step has been taken in a direction that is probably the right one, and may lead us to a successful, or, at any rate, less empyrical form of therapy.

Our ideas of fever in general certainly have been greatly modified and the treatment of it *en conséquence*. Every one who has fever in these days probably thanks God that water and luscious fruits are no longer snatched from his trembling hands as he reaches out to grasp them. Far be it from our purpose to detract one jot or one tittle from the well-deserved reward of the men of the olden time, for they probably did their duty as they saw it, and often caught success from the very jaws of failure by their faithfulness and clearness of judgment.

There is a tendency which has exhibited itself in all times to clothe the past in more glorious habiliments than the present. The fascination which surrounds the past, like the beauty of distant mountains, is probably born of the deception that distance lends. We confess a state pride in the undertaking which Dr. Anderson has fathered; we only regret that we are unable to assist him in his laudable endeavors by acquaintance with the history of some of these men whose memory it is his object to crystallize. Standing as he does now in the bright light of all modern discoveries in medicine, and yet capable by his years of recalling the lives of some of the men of the olden time, he is eminently fitted to save them from an honorable oblivion and hold them up for the consideration of this and future generations.

Possessed himself of the character of mind which he has described, yet willing and ready to consider and admit the advances of the science of to-day, Dr. Anderson will be entitled to an honorable and unique position amongst those whose memory he perpetuates.

WE have read with pleasure the paper of Dr. F. C. Hotz, presented at the last meeting of the American Medical Association on the "Tendency of Modern Ophthalmology."

The burden of this paper is to portray, according to the author, the somewhat retrogressive tendency of this department of surgery towards the standpoint it occupied thirty years ago. As peculiarly indicative of this tendency, mention is made of the fact that the old cornea flap-operation for the removal of cataract is commencing to be advocated instead of the modified Graefe operation. Eminently Dr. Schweigger has stated his inclination in this direction.

Those who have taken up the study of opthalmology in the last five or ten years know little of the corneal flap-operation, except by hearsay or by having performed it on the cadaver solely as a matter of interest or curiosity. There is no doubt that the majority of continental surgeons still advocate the modified section of Von Graefe; the English surgeons have always been and still are characterized by originality in their methods of removing cataract.

The surgeons who perform the corneal flap-extraction in this country are too few, if there be any, to be put over against those who perform the modified section of Von Graefe.

Dr. Hotz probably reckons with his host, but it would certainly be interesting to know now many surgeons at present adhere to the old method. We cannot recall a single celebrated surgeon, with one exception, in the four great capitals of the world, Berlin, Paris, London, New York, who prefer the corneal flap-operation, if we are to judge by the operation which they are accustomed to select.

Before the discovery and application of the opthalmoscope many eye troubles were considered as characteristic of certain dyscrasiæ and their treatment was the treatment of the dyscrasiæ to which, it was supposed, they were due. By force of ignorance there was a great deal of attention paid to general treatment. After the discovery of the ophthalmoscope by Helmholz, and of hypermetropia by Donders, the pathology of many ocular troubles became clear, and since the cause was local, local treatment was given. Certainly, however, in the latter time of Graefe there was a tendency toward purely local treatment, in fact, a kind of revulsion from the old toward the new. The intricate connection between a great variety of general diseases and intra-ocular changes that has been demonstrated by means of the ophthalmoscope, has shown that it was not so far wrong after all to treat dyscrasiæ in connection with the local treatment of the eye. We fail to see that there is retrogression, but we do see that by increased facilities and by reason of the march of time, one generation, profiting by the successes and failures of the preceding generation, is steadily progressing toward the correct appreciation of the therapeutic resources which are now at hand.

The researches of Dr. Stevens, of New York, in the matter of muscular insufficiency are at least suggestive of progression, and it only remains for others to apply his methods to the cure of many nervous affections to establish or disprove his claims to an unprecedented progress. If the question of a return to the old corneal flap is agitated at present, we deem that far from a return to it. When the latter operation was much in vogue, antisepsis was not used at all or poorly at best; the results therefore from the two methods are hardly to be compared; for the operation of corneal flap-extraction attended by strict antisepsis, and that attended by no or inefficient antisepsis, will produce results that differ widely. In the rush of progress over time it is easy to leave some good behind with the bad; fortunately retrospection will enable us to see what good has been discarded; but there is no retrogression in science and art.

The pendulum is a fitting emblem of time; the bar cannot go beyond certain limits and will return to the place from which it started; but the progress of science is the progress of evolution, and will continue till perfection be attained or chaos be come again.

TRANSPLANTATION OF A RABBIT'S SCIATIC NERVE IN THE ARM OF A MAN.—Dr. Gersung, assistant to Dr. Billroth, has transplanted a rabbit's sciatic nerve into the forearm of Dr. Von Fleischl, of Vienna.

Dr. Von Fleischl wounded himself while performing an autopsy in the terminal phalanx of the right thumb sixteen years ago. Gangrene ensued, and this phalanx was lost. Neuromata developed in the course of the filaments of the median nerve that supplied the thumb. These were removed by repeated operations. At length neuromata appeared in the main portion of the median nerve lying in the forearm. These were removed also, but the pain was not relieved. Finally it was determined to resect that portion of the median nerve which had contained the neuromata. This was done. A sciatic nerve was taken from a rabbit, and the central end was stitched to the connective tissue surrounding the central end of the median nerve. The sciatic nerve was removed below its forking; the two forks were stitched to the peripheral digital branches of the median nerve that were left.

Union of the wound took place by first intention, but severe pain was felt for several hours after the operation. Two months later pain had not returned, and sensibility was becoming established in the parts that were formerly anæsthetic.

Severed nerves have already been sutured together with good result. This, however, seems to be the first instance on record in which a nerve has been transplanted and stitched to an aboriginal nerve. It seems that sensation returned partly, at any rate in the region ; this is remarkable, and it must indicate that the foreign nerve is transmitting sensibility by virtue of the union of its ends to those of the aboriginal nerve.

We do not feel disposed to make any glowing vaticinations about this case, but enough success already seems to have been attained to warrant a reasonable hope in the ultimate success of the operation.

There is little question that nerve grafting will soon be popular, and that we will soon hear of cases of it reported on this side of the ocean.

Let us see : Skin, mucous membrane, bone and horny tissue have already been successfully grafted, and now the probability of successful nerve grafting is strongly placed before us. What next ?

Let us hope that this success will not inspire any fervid disciple of science to attempt again the transplantation of rabbit's eyes in the human being. Again the rabbit has unintentionally demonstrated his usefulness to science. We go to him for skin, conjunctiva, cornea, bone and nerve. M. Pasteur has shown great concern about the over-increase of this species of the genus Rodentia in one part of the world, and has even gone so far as to suggest their inoculation with an infectious disease for the purpose of exterminating them. It will hardly be necessary for them to be inoculated with any such disease, if only time enough be allowed scientists to work their will with them. Nevertheless, we love our kind more than rabbits or any other lower animal, and believe it only right that they should be subservient in all respects to the good of man.

THE CHAIR OF OPHTHALMOLOGY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.—Dr. Herman Knapp has been appointed Professor of Diseases of the Eye in the College of Physicians and Surgeons, New York. Dr. Knapp takes the chair occupied by the late Dr. C. R. Agnew.

Heretofore this chair, together with all the other chairs of clinical medicine, has been strictly clinical in character. Such is no longer the case with reference to the chair of ophthalmology. It has been made a didactic professorship, bears now the same dignity and entails the same emoluments as the chairs of theoretical instruction. This college is to be commended for this just step toward the recognition of specialism. This action will mark a distinctive era for specialism. It is to be hoped and it is not improbable that other medical institutions will follow in the steps of the College of Physicians and Surgeons.

The lamentable ignorance of eye diseases with which most graduates go into practice is a reflection upon their Alma Mater. Seeing that there is no compulsory attendance nor any examination necessary in the clinical courses of our medical colleges, the majority of students at least omit to avail themselves of the advantages which are open to them in these departments. However great a lover of knowledge a man may be, he will learn more under compulsion than when left to exercise his own free will; and however ardent a teacher a man may be, he will be more zealous in his pursuit if he feels that substantial and immediate reward awaits him for his work.

In an editorial in the past we advocated this recognition of clinical instruction. We do not recognize any causal relationship between our plea and the above-mentioned occurrence, but it is grateful to see that we felt the pulses of some members of the profession with accuracy.

It is foreign to our purpose to discuss the question of specialism. Time has shown that it is inevitable; and since it is inevitable, it were best to place it as soon as possible upon a recognized and dignified footing.

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ORIGINAL ARTICLES.

ARTICLE I.

ACUTE CONJUNCTIVITIS; ITS DIAGNOSIS AND TREATMENT.

By EDWARD JACKSON, A. M., M.D.

Professor of Diseases of the Eye in the Philadelphia Polyclinic.

Even the general practitioner who "does not pretend to know much about the eye" usually will undertake to treat the "simple inflammations" of that organ. But the inflammations of the eye, so simple that their management may be safely undertaken by one unacquainted with its special anatomy, physiology and pathological tendencies, narrow down to attacks of acute conjunctivitis, due to states of the general system, or to entirely transient local causes. And these are the only cases that many practitioners would knowingly undertake to treat. But it is not rare, for one who can recognize the mistake, to see other and much graver affections that have been treated for considerable periods of time on the supposition that they were cases of simple conjunctivitis.

Conjunctivitis is to be recognized simply by inspection. The first thing requisite to its recognition is familiarity with the appearances of the normal conjunctiva, such as is possessed by most practitioners of medicine who have not been compelled to pay special attention to the subject, and which is always available for purposes of study and comparison by the aid of any mirror. When one has become thoroughly familiar with the appearance of his own conjunctiva, he can readily study its appearances in others, so that ignorance in this direction can never be due to lack of opportunity. In studying the normal conjunctiva, observe especially its smoothness, transparency, and the way it passes over on to the eye-ball. The smoothness is seen by observing the reflection from its surface of a bright area, such as the sky or clouds, when the eye is turned toward a window. This smoothness is most perfect on the retro-tarsal folds and when the eye is first opened. After the surface has been exposed to the drying influence of the air for a little time it loses this perfect smoothness, especially over the tarsal cartilages. The transparency of the normal conjunctiva is such as to allow a good view of the structures beneath it, particularly the Meibomian glands, which appear near the lid margin as small, yellowish bodies separated by narrower, redder lines that run perpendicular to the lid margin; and the sub-conjunctival vessels, whose course is clearly traceable at various distances below the surface. Where the conjunctiva passes over from the back of each lid to cover the eye-ball occur the so-called retro-tarsal folds. These redundancies of the membrane are greatest in the direction in which the eye is turned; for instance, to develop the lower folds the eye should be turned somewhat down. It is also to be noted how, as the conjunctiva passes on to the sclerotic, it becomes almost devoid of visible vessels, especially in young persons.

In making a diagnosis of conjunctivitis it is convenient to follow Galen's grouping of symptoms as redness, heat, swelling and pain. The redness of this inflammation is most characteristic, and in most acute cases should make any mistake of diagnosis impossible. It is most pronounced on the inside of the lids, and may be confined to this locality. Usually, however, it extends more or less from the retro-tarsal folds up over the scleral portion, upon which it gradually fades out, being deepest near the fold and faintest or entirely absent near the cornea. It is by this peculiarity of distribution that it is to be distinguished from the redness which accompanies other inflammations of the eye. It should always be remembered and noted. In inflammations of the iris or ciliary body, or of the cornea, the redness is most marked near the edge of the cornea.

An apparent exception to the rule occurs in phlyctenular conjunctivitis, where the redness may extend in one or several bands quite up to the margin of the cornea, and be there, on account of the normal whiteness of this region, most noticeable. But even in this affection, which differs in so many respects from other forms of conjunctivitis that it should be considered by itself, the lining of the lids is usually very hyperæmic, and the reduction of that hyperæmia is essential to a permanent cure. But one must not, on finding the redness at the corneal margin that indicates a keratitis, forget that there may also be present the less prominent redness of conjunctivitis, and omit to look for it. I have seen a number of times in dispensary work cases of corneal inflammation that had undergone long courses of treatment at the hands of intelligent specialists without decided benefit, which yielded at once to the appropriate treatment of a heretofore neglected conjunctivitis, although the corneal condition was subjected to substantially the same influences as had before failed to relieve it.

Many of the accounts given of pannus would lead one to suppose that corneal inflammation and opacity due to morbid conditions of the lining membrane of the lids was almost confined to cases of granular conjunctivitis or trachoma. But this is not the case. In the majority of cases of keratitis secondary to disease of the lids the conjunctivitis is simply catarrhal. And, not rarely, it is so apparently insignificant as not otherwise to attract attention; yet its relief is absolutely essential to the cure of the more obvious and far more serious corneal disease.

On the other hand, it often happens that in the course of an acute conjunctivitis a corneal ulcer will appear; and the treatment, before proper, must now be supplemented or entirely changed, the corneal trouble being by far the gravest and most important feature of the case.

In diagnosis the local heat of conjunctivitis is of no personal importance. The swelling of the part, especially taken broadly as including the discharge from the surface, is of capital importance. In the first place, the interstitial exudation renders the conjunctiva and the tissue beneath it more or less opaque, the exact character of the opacity varying with the exact character of the case. Thus an acute purulent inflammation with stuffing of the deeper tissues with exudate, presents a deep red, raw-meat appearance, in which there is no trace of Meibomian glands or individual blood-vessels; while by a chronic catarrhal process there is produced the appearance of a film spread over the surface, and through this, as through a veil, are to be seen more or less dimly the deeper structures approaching more or less nearly the normal in appearance.

In any given case, either acute or chronic, the amount of swelling will indicate probably better than any other single sign, the gravity or probable obstinacy of the case. The amount and character of the secretion also throws light on the prognosis, and gives valuable indications as to treatment. This varies from the slightest accumulation of partially dried mucus at the inner canthus in the morning, to the constant flow of a sero-purulent or sanguinolent fluid over the cheeks. It must be remembered that the apparent amount of discharge and its character depend largely on the quantity of lachrymal secretion mixed with it. Of two cases in which the actual exudation from the surface of the membrane is precisely the same, one may present a small amount of quite sticky muco-purulent discharge, while in the other everything of the kind is washed away by the profuse flow of tears.

The pain of conjunctivitis is especially a pain of abrasion, smarting, burning, itching, etc. But if the swelling be very great, it may assume an aching character, the peculiar pain of the affection being lost or hidden in the pain such as attends this kind of tumor in any other portion of the body. In the smarting this inflammation is resembled by keratitis, in the aching by iritis. The smarting and burning are by no means proportioned to the other symptoms, but are often most severe and persistent in cases of chronic catarrhal conjuntivitis where the other evidences of disease are comparatively slight.

Of the different forms of conjunctivitis which are commonly recognized and accorded distinctive names, it is not my purpose now to speak. I wish rather to briefly outline certain general principles of treatment.

Acute conjunctivitis, mild or severe, tends on the whole pretty strongly toward recovery. If in the meantime it can be kept from doing permanent damage through involvement of the cornea, it may be treated mainly on the "expectant" plan. The excessive use of mineral astringents, whether the excess be in the frequency, or the strength of the applications, or in the length of their continuance, render recovery more slow and unsatisfactory. Where active treatment is not required, the use of

Boric acid, - - - - -	15 grains,
Distilled water, - - - -	1 ounce,

or the same with the addition of four grains of sodium bi-borate. Five drops instilled every four hours will prove soothing alike to the sore eye, the patient's mind, and the therapeutic conscience of the doctor. For although it is neither a powerful "antiphlogistic," nor a reliable "antiseptic," it is cleansing, unirritating and in every way harmless, and will do much good if it only prevents resort to measures that are positively injurious, such as poulticing or applying a bandage, which in a little while comes to act as a poultice.

When the discharge from the conjunctival surface contains a notable amount of pus, we have a clear indication for positive treatment. This should begin with the application of a solution of silver nitrate to the portion of the conjunctiva lining the lids, and to the retro-tarsal folds. Such a solution should have a strength of from one to five per cent. (five to twenty grains to the ounce). It should be applied once or twice daily, until the amount of purulent secretion is greatly diminished; and when the purulent discharge has ceased, it is usually time to discontinue such applications altogether. Such solutions are best applied to the everted lids by means of a pledget of cotton twisted around the end of a match; and the amount of effect produced can be regulated by having the cotton full and almost ready to drop with the solution, or by pressing most of it out and having the cotton comparatively dry for making the application. If care is taken to have the cotton so dry that no excess of fluid is left on the surface of the lid, and the lid is kept everted for some little time after the application has been made, there is no need to "neutralize" with sodium chloride. And even if it is thought advisable to do something of this kind, simply washing the excess away with pure water is much to be preferred.

Equally indicated by the appearance of pus in the discharge is the use of a wash of this kind:

Mercuric chloride, - - -	1 part.
Distilled water, - - - -	5000 parts.

This is really an antiseptic, and probably the mildest and safest reliable antiseptic that can be put into the hands of the patient or his non-skilled attendants for frequent use. A sufficient quantity of it should be used at a time to insure a thorough cleansing of the conjunctival sac, and the frequency of the instillations should be proportioned to the rapidity with which the discharge reaccumulates, say once every hour in a severe purulent conjunctivitis or three times a day in a case mild from the start or approaching recovery.

The complication usually to be feared in a case of conjunctivitis is the involvement of the cornea. To avoid such an occurrence the most important measures are those which directly combat the primary disease. But when injury of the cornea is especially imminent or has actually occurred, certain additions to the treatment are demanded. When the swelling of the lids is very great, a very important measure is the bathing of the eye, or rather the closed lids, with very hot water, water as hot as it can be borne, often 130° to 140° Fahrenheit; such bathing to be kept up but a few minutes at a time, and repeated every hour or every day, according to the need of the particular case. A remedy of great importance, where the corneal involvement is not very acute, is the local application of atropine or one of the other mydriatics. In simple conjunctivitis the instillation of these drugs is unnecessary, and occasionally harmful.

ARTICLE II.

OPERATION UPON THE BREAST, LEAVING THE NIPPLE, AND ANOTHER IN WHICH A TROUBLESOME MILK FISTULA WAS THE RESULT.

By DR. T. P. SATTERWHITE,

Visiting Surgeon to the Louisville City Hospital.

Miss Lizzie M., æt. 36 years, blonde, health good, and with no hereditary taint. Four years ago she noticed a small but not painful tumor in the right breast, just in the outer and lower margin of the gland, which had been growing about a year. It was removed as well as the tissues around it. The operation was under antiseptic precautions, several vessels were ligated, five or six stitches closed the wound, and the whole was dressed with iodoform and bichloride of mercury solution, one to three thousand. The wound healed promptly and without any suppuration. In the course of ten months the trouble reappeared, and in the same locality several small tumors were removed. The operation was performed under antiseptic rules, and dressed antiseptically. It healed, as after the first operation, promptly and without suppuration. In less than a year after second operation, she again returned to the city and sent for me to examine the same breast. There were two or three small tumors in about the same locality as the former ones, with the exception of a small one that appeared higher and under the gland. I at once advised her to have the breast removed. This advice gave her great distress, and for some time she was undetermined whether she would not rather die than to have her breast amputated. I with her relatives at last persuaded her to consent to its removal, and it is to this operation that I wish to call the attention of the society. The lady had a great repugnance to being deformed, as she thought she would be, by having all signs of her breast obliterated, and that it would be a source of constant distress. I told her that I could, to a very great extent, obviate the deformity, that I would leave the nipple and that the flatness of that side of the chest would not be so conspicuous. On this representation she consented to have the operation performed. With Dr. Gunterman assisting, I made an incision at the lower margin of the mamma and dissected up the integument, including the nipple, to and above the upper margin of the gland together with the tissues down to the muscle. Four or five ligatures were applied, and the wound was closed with ten or twelve stitches. The whole was done antiseptically. The wound healed as promptly as in the former operations, and without a particle of suppuration. The lady was very agreeably surprised when she was allowed to inspect her breast and found the deformity was not near so great as she had supposed it would be. The preservation of the nipple did lessen the deformity considerably. I regret to say that in a few months afterwards I had to again remove several hard nodules, about the size of large bird shot, situated about where the others were. No chloroform was used. Cocaine was employed, and very satisfactorily, the wound was dressed antiseptically and healed as the others did, without one drop of suppuration. There has never been any involvement of the glands of the axilla or of the other breast. A few weeks since I removed a small, hard nodule, about the size of a pea, situated in the areola of the nipple. Using cocaine, the wound was not dressed antiseptically, and it healed by granulation. I trust this will be the last occasion for an operation, but if not, all enlargements that may appear, will be promptly removed. I should have mentioned that the first tumor was submitted to microscopical inspection and was pronounced scirrhus.

I wish, while on the subject of the breast, to note another operation which I performed at the City Hospital. The patient was a married woman and had borne several children. The youngest was a year old, and at the breast. The child nursed from both, and was well nourished. The mother was fairly nourished, but was exceedingly anæmic and had a cancerous cachexia. A consultation was held, and an operation was advised. I determined to remove the whole gland as there was so much of it involved. After the patient was thoroughly anæsthized, the operation was performed. The great vascularity of the part caused considerable loss of blood, largely venous, which was due to the activity of the gland. The operation had to be done with great dispatch, consequently all of the gland was not removed, as will be shown further on. The patient rallied and felt no great inconvenience from the chloroform or the operation. There was administered a hypodermic of morphine and atropine. She passed quite a comfortable afternoon and part of the night. The operation was performed at two o'clock. About ten o'clock at night I was sent for and found the dressings saturated with blood and the pulse indicated its loss. I at once cut the stitches and opened the flaps, and as soon as I did so, a small jet spouted from the upper angle of the wound. I placed my finger on it until my assistant could get a ligature ready, which was in a few seconds, when I raised my finger to pick up the vessel, it could not be found. We tried every way and means to make it bleed, but were not successful. So we closed the wound as before, and were troubled no more with the hæmorrhage, but were for a long time exceedingly annoyed by the secretion of milk from the small portion of gland that was left, and it continued for such a length of time and was so profuse that the patient became exceedingly troubled by it. Her clothing was kept wet and she had always a strong odor of milk that worried her, and others around her so much that if it had not been summer, she would have weaned her child. This secretion kept up nearly two months, and caused a troublesome, fistulous opening. The tumor was given to the curator, who, after microscopical examination, pronounced it malignant.

ARTICLE III.

THE ABUSE OF UVULOTOMY AND TONSILOTOMY. ELONGATION OF UVULA AND HYPERTROPHIED TONSILS SEQUELS OF CHRONIC NASO-PHARYNGEAL CATARRH.*

By J. G. CARPENTER, M.D., Stanford, Ky.

That elongation of the uvula and enlarged tonsils are almost invariably the sequels of chronic catarrhal inflammation of the upper air passages is an axiomatic truth to the writer, though they do follow scarlitina, diphtheria, rötheln and acute tonsilitis, and are considered by the general profession as independent affections; and to cure them, physicians advise the use of medicated gargles and mops for a short time, then resort to uvulotomy and tonsilotomy, thinking they cure the ailments, but do not; they only remove, as the case may be, one factor of irritation, cough and obstruction to the breathing and deglutition. Hypertrophied tonsils and uvula resulting from naso-pharyngeal catarrh will return again as long as the latter is not treated and takes on frequent attacks of acute or sub-acute inflammation.

As proof of this proposition: The anatomy of the mucous membrane of the upper air passages, palate, uvula and tonsils are identical. The pathology and clinical history are the same. Under treatment of the catarrhal inflammation, locally and specially, and no special treatment to the *elongated uvula and enlarged tonsils, the latter return to normal size step by step as the catarrhal inflammation improves and is cured.*

The mucous membrane of the naso-pharyngeal cavities, like all mucous membranes, is composed of an epithelial layer, a basement membrane made of fibres of connective tissue embracing within its meshes blood vessels, smooth muscular fibres, different forms of small glands and presenting minute processes or villi, an external layer of loose connective tissue, the sub-mucous cellular tissue.

In this connective tissue is found the leucocyte or connective tissue corpuscle, which performs an important act in catarrhal inflammation as well as in inflammation of other tissues. The glands of the mucous membrane are the simple follicle and the compound racemose glands.

The follicle is an infolding of the mucous membrane into a straight tube forming a flask-like cavity. The racemose gland is composed of several flask-like follicles opening into a single duct whose orifice is on the surface of the mucous membrane. The mucous membrane of the nose and throat are rich with follicles which have a tendency to accumulate in certain regions, as the vault of the pharynx, forming the pharyngeal tonsils, and between the pillars of the palate, forming the palatine tonsils.

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* Read before the American Rhinological Association, Washington City, 1887.

The tonsils are adenoid growths composed of follicular glands. The follicles are infoldings of the mucous membrane from the pharynx by which a flask-like cavity is formed, lined with a thin layer of granular epithelium; the outer wall of the gland is composed of a layer of connective tissue together with a delicate fibrillary vascular layer; in this layer are imbedded a number of closed follicles containing a large number of cells and free nuclei lying in a clear fluid. Gray's Anatomy, page 781: Throughout the pharynx are numerous crypts and recesses, the walls of which are surmounted by lymphoid tissue similar to that which is found in the tonsils. The tonsils being similar in construction to the mucous membrane of the pharynx, and covered externally and lined internally by it are subject to similar influences. The blood vessels, lymphatics and nerves supplying the lining of the naso-pharyngeal cavities anastomose or communicate with those supplying the buccal cavity, tonsils, lower pharynx and palate, consequently an irritation or inflammation of the superior respiratory tract is easily extended to the palate, uvula and tonsils by reflex action or continuity of tissue as to ear, eye and larynx. The tonsils, like mucous membrane of the nose and throat, are subject to acute or chronic congestion, hypertrophy or atrophy.

Hypertrophy of tonsils and uvula either accompany chronic catarrhal inflammation or the hypertrophic variety.

The soft palate and uvula consist of a fold of mucous membrane, enclosing muscular fibres, an aponerosis, vessels, nerves, adenoid tissue and mucous glands, the mucous membrane being a continuation of the lining of the floor of the nasal cavities.

Hypertrophy of the tonsils is of two kinds, viz.: Glandular and the hyperplastic, or both combined. In the former there is enlargement and distention of the follicles of the tonsils. The gland is rough on its surface and is nodular, the secretion presents at the mouths of the ducts and can be pressed out, the gland is soft and friable and can be pierced with a probe.

The hyperplastic is different, the surface of tonsils is smooth and rounded, at first soft and compressible, later firm and elastic; the follicles are compressed and atrophied, their function is abolished. As a result of previous inflammation there has been cell proliferation and an increase of connective tissue elements.

Exactly similar pathological conditions exist in chronic naso-pharyngeal catarrh, the chronic hypertrophy being due to renewed attacks of sub-acute inflammation, from which occur enlargement and distention of the various glands, exudation of the leucocytes and lymph into the connective tissue around the glands, cell proliferation and organization of lymph into new connective tissue, and finally the follicles are so much compressed as to cause atrophy.

Hypertrophy of the tonsils is also considered due to strumous diathesis, especially the hyperplastic, but extensive experience and observation prove that the catarrhal diathesis is equally an important factor in its production. The catarrhal diathesis being established by want of good, nutritious food, enough is taken in quantity to allay hunger, but is deficient in quality; want of proper clothing, that is, an equal distribution of clothing to all parts of the body, and an extra wrap for sudden atmospheric vicissitudes.

The clinical history of elongation of the uvula and enlarged tonsils, except when due to scarlatina, diphtheria, acute tonsilitis, measles, rötheln or scrofula, is that they have existed for some time, that formerly, the victims suffered from repeated attacks of cold in the head—the naso-pharyngeal cavities, but, for some time, the coids have extended further down, involving the lower pharynx, tonsils and palate, that the nasal cavities have been more or less obstructed, expectoration and discharge of mucus from the nasal cavities, and oral respiration has existed for some considerable period; the latter, due at first to nasal stenosis, later to engorgement of tonsils and free or excessive secretion of mucus. The afflicted have been affected for months or years, their general health is below normal, they have malnutrition and have often in addition to the enlarged tonsils or uvula, enlargement of the anterior, posterior cervical and submaxilliary glands, though they recover on the local application of soothing, astringent, non-irritant medication to the mucous membrane of the naso-pharyngeal cavities and constitutional treatment, which is not anti-strumous. Of the many cases of enlarged uvula and tonsils observed, treated and cured by me, most of them have been previously treated by general practitioners without success, and they have advised uvulotomy and tonsilotomy, but have never given any local treatment to the naso-pharyngeal catarrh which has preceded the uvular and tonsilar enlargements. Rhinoscopic examination reveals the lesions of simple chronic naso-pharyngeal catarrh or the hypertrophic variety.

Having established the fact, that uvular and tonsilar hypertrophies are the sequels and accompaniment of chronic naso-pharyngeal catarrh;

a logical inference is, that the same treatment which arrests or cures the latter, also cures the former.

Constitutional treatment consists of internal medications; viz., aids to digestion, the regulation of the eliminative organs, tonics, laxatives, alteratives, and the anointing of the skin with vaseline and massage, good nutritious food, sufficient clothing, exercise in the pure air and sunlight and ventilation of the sleeping apartment. Local treatment has for consideration the application of soothing, astringent, non-irritant medication applied as warm as the temperature of the blood in the form of a spray to the naso-pharyngeal cavities.

With Rumbold's spray producer, the metalic ones, the naso-pharyngeal cavities should be treated. Nos. 4 and 5 should be used first, throwing the spray behind the soft palate through the mouth into the vault and posterior nares. No. 2, throws the spray into the anterior nares. Nos. 1 and 3 spray the soft palate, tonsils, fauces, lower and middle thirds of pharynx. The DeVilbis universal spray producer can be substituted for Rumbold, 1—8 inclusive, since by revolving the point, the spray can be thrown in any direction. These are the only instruments with which the medicines can be applied as warm as the temperature of the body at the same time being in the form of a spray. The following are a few receipts that have done great good and made cures, other prescriptions can be extemporized as the physicians deem best in each case. ℞. Acidi Carbol, grs. 5 to 10; Pinus Canadensis half drachm—2½ drachms; glycerine, 1½ oz; aq. ferv. 6½ oz.; FT. SOL. ℞. Acidi Carbol, grs. 1 to 2; Ol. Eucalypti, grs. 3 to 5; glycerine 2 drachms; aq. distil 1½ oz. Dose of either of these gtts 3—10 with one third to half drachm of vaseline warmed thoroughly, mixed and sprayed in each instrument until every treatment is complete. The following prescriptions applied warm in form of a spray followed by vaseline have accomplished great good and cures:

℞. Listerine, 1 to 2 drachms; glycerine, 2 drachms; aq. distil 4 drachms to 1 oz; Carbolic Acid, ½ to 1 gr. can be added if desired. ℞. Potassii Iodide, grs. 3 to 10; aq. distil, 4 drachms; glycerine 4 drachms. ℞. Potassii bromidi, grs. 3–10; aq. distil, 6 drachms; glycerine, 2 drachms; And ℞. Ammonia muriate, grs. 3 to 6; aq. distil, 6 drachms, glycerine 2 drachms. Dose of any of the above is one-third to half drachm sprayed in each instrument. Glycerite of tannin. ½ to 2 drachms; glycerine 1 to 2 oz. have great virtues when applied to the mucous membrane of the respiratory tract.

If acute tonsilitis, pharyngitis, rhino-pharyngitis, diphtheria, scarlitina, rötheln and measles were treated locally during the attack after the above method and until resolution was complete, that is, the epithelium, the basement membrane and submucous connective tissue had returned to its normal state, function and color, elongated uvula and hypertrophied tonsils would be of rare occurrence. My rule has *been to never* perform uvulotomy, nor tonsilotomy until the local medication above described has been given a thorough trial; for instance, local applications are made to the naso-pharyngeal cavities, palate, tonsils and lower pharynx every day for ten days, then every other day for two or four weeks, then twice a week for three or four weeks, if by this period the elongation of uvula and hypertrophied tonsils still exist, then as the case may demand, uvulotomy or tonsilotomy is done.

℞. Iodine, i gr. Pot. Iodid, grs. xx; aq. distil. 1 oz.; glycerine, 2 drachms; gtts x—xxx injected into the enlarged tonsils once or twice a week with hypodermic syringe assists the other local medication very decidedly in restoring them to normal size. The enlarged tonsils and uvula subside *pari passu* as the chronic catarrhal inflammation of the upper air passages is arrested or cured. Carbolic acid, grs. v—x; aqua 1 oz.; ten to twenty drops injected into the enlarged tonsils two or three times a week assist in their reduction.

1886—H. M., æt. 13 years, had chronic naso-pharyngeal catarrh with deafness, enlarged uvula and tonsils, inclination to swallow, continuous cough and stertorous respiration; was treated every day locally for ten days, for the naso-pharyngeal catarrh, then every other day for three weeks, then twice a week for a month.

At the expiration of two weeks the enlarged uvula was normal, and at the sixth week the tonsils had subsided.

June, 1877—A. H., female, æt. 8 years, blonde, had naso-pharyngeal catarrh, with hypertrophied tonsils and anterior and posterior cervical glands and frontal heachache, was treated every day for five days, every other day for two weeks, twice a week for three weeks, and once a week for three weeks. In two weeks from date of first treatment, the enlarged tonsils and cervical glands returned to normal size. The case convalesced rapidly. In six months not a vestige of the disease could be found: nine years have now elapsed since treatment ended, and the patient has been free of disease all the time.

1882—H. S , æt. 10 years, has had chronic catarrhal inflammation of the upper air passages two years, and had Eustachian catarrh with deafness to follow the former, is a blonde, has good family history, has reflex cough, hypertrophied tonsils, recurrent earache and frontal headache. In damp weather had asthma. Patient was treated every day for seven days, every other day for two weeks, twice a week for three weeks, once a week for four weeks.

Headaches, enlarged tonsils, hoarseness, asthma and cough subsided in about two weeks after patient began treatment. Patient was well four months from date of first treatment.

It has now been four years since the case was dismissed, and recovery has been complete all the time, except this spring. Miss S. had roseola and required about six treatments for throat, but is now well.

Prof. J. B. M., æt. about 45 years, had chronic catarrhal inflammation of the upper air passages, and was subject to acute or sub-acute inflammation of these accompanied with congestion or inflammation of the lower pharynx, tonsils and palate; the uvula, from recurrent attacks of cold became chronically enlarged and elongated and produced great tickling and cough. The general practitioner in attendance, thought the elongated uvula caused the inflammation above and considered it best to perform uvulotomy, and that to do the operation successfully as much of the uvula as possible should be taken off. About an inch in length of tissue was removed, even a part of the palate, so that always afterwards the professor had nasal speech, more or less regurgitation of food and liquids occurred during deglution; not only this, but the operation was performed during an attack of acute inflammation of the upper air passages, and the victim came near bleeding to death. Had the patient been treated as above described for naso-pharyngeal catarrh, the uvula would have been restored to normal size and no operation would have been necessary. Prior to performing uvulotomy and tonsilotomy, the chronic congestion should be reduced to a minimum.

Many more cases could be given, but these will suffice to illustrate the subject of this paper. In all of these cases uvulotomy or tonsilotomy had been advised by general practitioners, though no rhinoscopic examination nor treatment of the naso-pharyngeal cavities had been made. The views expressed in this paper may not be accepted by the general practitioner and surgeon, but specialists in rhinology will no doubt confirm them.

DISCUSSION.

Dr. T. F. Rumbold, St. Louis.—The time in which to wait before operating on enlarged uvula and tonsils, is a matter of considerable importance. As a rule, in every large city that I have visited and witnessed operations on the uvula or tonsils, the surgeon operates at once, at the first visit of a new case. I consider this bad practice, as bad as though the surgeon were to shave off the top of a boil merely because of its abnormal elevation. Had he treated the boil properly, the elevation might be reduced to its normal level. So it may sometimes be with enlarged tonsils. If we treat enlarged tonsil it may prove to be only swollen, and it will take some days to prove whether it is a permanent enlargement or only a swelling. I understand Dr. Carpenter recommends four or five weeks' treatment. This is longer than I take, I do not say that this length of time is too long. I do not know but that he may be right. He has been paying particular attention to this subject for the past year. I know that every operation in the nose, throat and ears should be deferred until two or three weeks' treatment has been given. After that, if removal is required, the pain in operating is less, the hæmorrhage is less, and as the inflammation is reduced, the healing is quicker. I have removed the tonsil of a singer on Saturday and on the following Monday she did not know by any sensation in her throat that she had been operated on.

ARTICLE IV.

SOME SUGGESTIONS ABOUT TEETH.

By W. J. THAYER, M.D.

A writer in one of our medical journals says that "sometimes a physician is selected because he is old or young; because he drives a fast horse, or, perhaps, two horses and lays back on the still hunt to see who is observing all of his splendor! Because his charges are low and his services of the same order! Because he is a professor, or because he is not; because his name appears often as a laudator of wines and mineral waters; but *not* often enough, because *he is known* TO BE EDUCATED, FAITHFUL AND COMPETENT!"

It's in order to inquire: Do physicians show more wisdom in directing the nutrition of *all* tissues, and almost always think but little of the requirements of certain and specific ones?

There are certain dense tissues that do require that the physician should think more of their construction and instruct his patients about how to produce their best types, and by so doing preserve them.

We speak of the teeth. Either their creation is unwise or we are exceedingly negligent in directing the best methods for their proper construction and maintenance. Anyone, by observing the teeth of individuals who have been born within the past twenty or thirty years, must have noticed that when the teeth of such individuals are compared with persons who were born anterior to them, that there is a great difference in the ability of the teeth of these different individuals to resist decay. This is owing entirely to the different way in which the teeth "were brought up."

It is evident that no tissue can be "brought" up, *grow*, and become useful parts of organs unless there has been furnished something to build with! The exact facts are, that the teeth, since the advent of bolting machines, have had but very little to build with; and muscular tissue, too, has been deprived of calcareous matter that is essential to a firm, dense texture in either tissue. These are the exact facts, and are admitted by every one.

The three petrous tissues—enamel, dentine, and cementum—should average 80 per cent. of calcareous matter as a whole: enamel, 98; dentine, 80; and cementum, 78 per cent. But vast numbers of human teeth can be found that do not average 65 per cent. of the inorganic constituents!

The subject of the nutrition of the teeth is one the American people cannot treat with indifference much longer, or they will be an edentulous community.

The first spot to commence to feed the teeth is to supply the fœtus. This must be done through the mother, by her eating the courser varieties of our cereals. The *whole* of the wheat, the oat, the corn and rye; and not their sifted or bolted products, *must be* eaten. There is very little calcareous matter in the inside of any of these forms of food, but there *is a rich deposit* of tooth material in the *out-side* of all of our cereals that *cannot* be found in any other variety of food. Not only the pregnant woman *should eat liberally* several times a day—three—but she who gives the child suck.

If the child is to be fed artificially, it is exceedingly important that something better than malt preparations, starch, cows' milk, or distilled water, should be put into the bottle.

Malt foods are too laxative, and are apt to cause hiccough.

Starch foods, as such, are indigestible. The starches are disposed of *after* they leave the stomach. Starches are digested by the amylolytic ferments of the saliva, pancreatic and intestinal juices. Now, since no child under one year—some claim eighteen months—secretes much of this ferment, it is incapable of digesting the carbo-hydrates that are in the form of raw starch, such as powdered crackers and wheat bread, farina, rice, and starchy artificial baby foods. Magendie fed dogs on starch flour, and they were starved to death within forty days. Judge Abbott, of Boston, relates the experience of some shipwrecked sailors, who were compelled to subsist on *bolted* wheat flour, and who nearly perished from starvation before rescue.

Cows' milk, as a food for infants, has but one fault, and that is, that it not only contains *too much* casein, but, however small the quantity may be made by dilution with water, what casein there may be present *is very tough* and hard for an infantile digestive apparatus to dispose of. But this difficulty can be wholly overcome, if, before the milk is given to the child, it be partly predigested with *fresh* pancreatine. But this is difficult to obtain fresh, and it is more difficult for the mother partly to predigest the cows' milk. Too long a time will make the milk bitter ; too much heat will stop the action of the ferment, and the milk may not be digested at all !

Where it is not possible for maternal nursing, a good artificial food that has a good supply of the *albuminoids* for *general tissue* building, and a liberal quantity of *calcareous* matter, backed up with a large per cent. of *phosphoric acid* for *petrous tissue* building, and is *easy of digestion*, will be *found* nearly, if not quite, as good a food as human milk, and *vastly superior* to indifferent maternal nursing.

There are some eight or ten different artificial foods for babies now on the market, and we have taken some pains to find out their composition, which we herewith transcribe for the criticism of the reader. We will refer to the starch foods first ; then the malted ones ; and lastly the milk foods, which are possessed of great merit.

Starch foods.—The composition of Wells, Richardson & Co.'s, in albuminoids, is 9.05 per cent. ; lime, salts 2.26 ; phosphoric acid, 0.688 ; cellulose (*indigestible*), 1.54 ; and ease of digestion is 8.35. Ridge's Food.—Albuminoids, 1.27 ; lime salts, 0.48 ; phosphoric acid, 0.260 ; cellulose, 0.73 ; and ease of digestion, 7.97. Imperial Granums.—Albuminoids are 10.73 ; lime salts, 0.37 ; phosphoric acid, 0.167 ; cellulose, 0.97 ; and digestion, 9.55.

Malt foods (two).—Mellin's—Albuminoids are 8.34 ; lime salts, 3.53 ; phosphoric acid, 0.583 ; cellulose, 0.58 ; and digestion, 7.38. Horlick's Food.—Albuminoids, 11.30 ; lime salts, 2.76 ; phosphoric acid, 0.421 ; cellulose, 0.55 ; and ease of digestion, 10.85.

Milk foods (three).—Nestle's—Albuminoids are 11.46 ; lime salts, 1.75 ; phosphoric acid, 0.630 ; cellulose, very low, 0.10 ; digestion, 11.09. Anglo-Swiss.—Albuminoids are as high as 12.38 ; lime salts, 1.95 ; phosphoric acid, 0.800 ; cellulose, 1.09 ; and ease of digestion, up to 11.20 per cent. Carnrick's Soluble Food contains 18.25 per cent. of albuminoids, and the average of woman's is 17.08 ; lime salts, 2.991; phosphoric acid, 0.874; cellulose, *none*; and ease of digestion as high as 16.45 per cent.

Thus it will be seen that the milk foods are the best, and even these are different in value. Soluble food will digest as readily as human milk, and is the *best balanced* in nitrogenous matter, lime salts, and phosphoric acid.

The amount of casein averages, from forty-three different women, in an analysis made by Meigs, 1.046 per cent.

The casein in cows' milk averages by the observation of thirteen different analysts as high as 3.022 per cent. Dolan and Wood place it as high as 7.005 per cent. The average is low. It will be observed that the casein of cow's milk is nearly 300 per cent. greater than that of human milk. This is the reason why cows' milk so often forms indigestible curds.

Females have teeth that are much softer and more frail than those of males; and it is also true that heredity is somewhat of a determining cause; also neglect of thorough and careful cleaning; but the chief cause of the early decline of the dental organs is because they have been deprived of a normal supply of calcareous matter. This is the conviction of thirty-five years of observation.

If none, or but a little of the lime salts are ingested, there can be no appropriation, and the petrous tissues deprived of pabulum must be weak and frail in just the proportion of their *starvation!*

There is no food other than the *whole* of some one of our cereals that can supply a sufficient quantity for the teeth. It should not be forgotten that it is necessary to send these salts through the *umbilical cord* and the *mammary glands*, and equally as important *to know* that they are in the *bottle*. Also that the child and youth, up to at least the thirtieth year, *should partake liberally of these course bread foods.*

ARTICLE V.

TWO CASES OF TYPHLITIS.

By Edwin H. Bidwell, M.D., Vineland, N. J.

M. B——, a bright, healthy boy of fifteen, was attacked about noon on Saturday, the 22d of April, by a pain in the abdomen, which he thought an ordinary "stomachache." He observed no tenderness and no fever. On Monday he still had the pain, and occupied the lounge most of the day, "too sick to go to school, but not sick enough to go to bed."

During the afternoon and evening, however, he vomited two or three times, and had two rather severe chills, followed by fever, each paroxysm lasting an hour or so. He says the pain ceased entirely during the fever. Monday night the pain steadily increased, not, however, being at any time very severe.

I saw him first Tuesday morning at five A. M. I thought his pulse a little fast, but made no note of it, and detected no elevation of temperature. I might have overlooked a slight rise, not using very great care in the observation.

It looked like a case of mild colic, but the history, the vomiting, the chills and the persistency of the pain persuaded me that there was something more. The whole abdomen was somewhat tender, not swollen nor tympanitic, nor was there any tumor in any part of it. I thought, however, that there was some dullness on percussion over the cæcum, where the tenderness was slightly more marked; but the dullness, if any, was so slight that I was not at all sure of it.

Calling again at six P. M., I found his pulse 130, temperature 103 3-5°.

His pain had not increased during the day, and the abdomen was tender only in the region of the cæcum, where the dullness was now plainly evident.

Wednesday morning his temperature was 100°, pulse 108; in the evening, temperature 100 3-5°, pulse 120.

On Thursday I saw him only once, at two P. M., when his temperature was 100 2-5°, pulse 90. Friday, at ten A. M., temperature 100°, pulse 90.

His recovery progressed uninterruptedly, and seemed complete two weeks from the inception of the attack.

The causation was probably exposure to cold. On the day preceding that on which he was taken sick he had been watching a base-ball match, and he remembers, it being a raw, windy day, unusually cold for the season, that he was thoroughly chilled through before the game was finished. He had also, just before going to the match, had his hair cut short, as is the summer fashion with boys.

The treatment consisted of 1-10 grain doses of calomel every hour for ten hours on the first day, repeated also on the following day, and moderate doses of opium every hour, with hot poultices to the abdomen throughout the attack.

He had also two warm water enemata towards its termination.

There is, of course, nothing new in this treatment, nor do I, because of its successful issue in this one instance, claim specific power for it. I only report the case for the sake of calling attention to the natural history of the disease, and especially to the most important point in its symptomology, its apparent triviality in the early stages. These cases cannot be treated as simple colic with constipation, as one might carelessly diagnosticate them when first consulted.

That typhlitis is frequently and rapidly fatal, of course every one knows. But the recognition of the gravity of such cases as the one I have related, might without careful examination and study, very easily escape any one of us.

About six weeks before the occurrence of that case I had attended a young man of twenty, who, after being out one day in snow and wind, had exactly the same train of symptoms for the first three days of sickness. The pain was no more severe, nor was there, up to the end of the third day, apparently anything at all alarming in the case, and I was called in only because of the persistency of the pain. Yet he died with general peritonitis on the fourth day. No autopsy was permitted, but I am perfectly confident that the cause of the peritonitis was perforation from typhlitis or appendicitis.

Doubtless typhlitis frequently terminates favorably without operative interference, and it seems to me very probable that in many cases the disease may have run its course, ending in resolution and recovery, as did the one first reported, without its gravity ever having been understood. But this in no way absolves us from the duty of recognizing the danger, which is proven by such cases as my fatal one, or of being prepared for prompt surgical interference should the necessity arise.

The discussion as to what should constitute the indications for immediate operation, and what should justify its delay, I must leave to those of wider experience and to those with abler pens than mine.

ARTICLE VI.

By Thomas M. Rochester,

It is the object of this brief note merely to give a slight review of the paper read at the last meeting, and to bring out some points on the general subject of extra-uterine pregnancy which it is hoped may elicit an interesting discussion on the topic. After carefully reading the four cases presented, it seems as though only one of them was what might be called an undoubted case of extra-uterine pregnancy. I refer of course to Dr. McCollom's.

While it is admitted that all of the other three were suspicious, and presented a train of symptoms which would cause the physicians to seriously consider the possibility of an abnormal fœtation, yet in none of them were there any indications that might not otherwise be accounted for.

Especially is this true of the case reported by Dr. Segur. Here we have an entire absence of all of the usual symptoms of extra-uterine pregnancy, except amenorrhea, which was of frequent occurrence with this patient, and get simply the record of abdominal pain; and furthermore, a laparotomy reveals only a fibroid tumor of the uterus and the coagulum of an hæmatocele. No evidences of the remains of any fœtal development were discovered, and the expulsion by the uterus of a membrane during menstruation, might easily be accounted for by the previous history of a chronic and very severe dysmenorrhœa.

As regards the cases reported by Drs. Benton and Bierworth, whether they were examples of extra-uterine fœtation or not, can not of course be said, but at any rate the proper thing was done for the respective patients at the proper time, and they were given the full benefit of the doubt by a plan of treatment which, whatever the exact pathological condition, could not increase the danger to life.

There are no cases to which we are called that offer greater difficulties to an accurate diagnosis than the ones under discussion, and yet there is probably no condition in which it is more important to the patient that such a diagnosis should be made early.

The symptoms of extra-uterine fœtation are those of the earlier months of a normal pregnancy, occurring as a rule in women over thirty, and in those who have been altogether sterile, or in whom some time has elapsed since the completion of a natural pregnancy. At the end of the second or third month there is usually an abortive attempt at menstruation, accompanied sometimes by the expulsion from the uterus of shreds or patches of the decidual membrane. At the same time there is apt to be more or less abdominal pain of a crampy nature. Now, if, in addition, a bimanual examination reveals a peri-uterine tumor of any kind, we may always suspect an extra-uterine pregnancy.

As is well known these symptoms are rather vague, and probably the only pathognomonic sign that we have is to see either the whole or at least an undoubted portion of the fœtus.

This being impossible in most cases until after an operation or the death of the patient, what are we to do when we have the chain of symptoms above enumerated ?

It will not do to wait and trust to nature. The old method of injecting the sac with morphine or other substances has entirely fallen into disuse, and deservedly so; and the only thing now to be done is to destroy the fœtus by electricity.

Always, excepting Mr. Lawson Tait (who writes as though he were the only one in his branch of our profession who really knows anything), the great weight of authority recommends this procedure. Whether the continuous or interrupted current is the best agent for electrical fœticide is as yet *sub judice.*

It seems to the writer, however, that if a continuous current will accomplish the desired result, it is far preferable, as being both pleasanter and safer for the mother.

The fœtus being killed, and its consequent development arrested, there is now one of two things to be done—either to wait for further symptoms or to proceed at once to what is called a secondary laparotomy. If one is reasonably sure of his diagnosis, this is unquestionably the proper thing to do, and at any rate, an exploratory incision would be attended with very slight risk, while the presence of a fœtus in an abnormal location, even though its development has been arrested, is a constant menace to the mother.

The benefits of electricity probably begin and end with its power to kill the fœtus, and the writer, anyway, is exceedingly skeptical of its absorbefacient properties.

Dr. McCollom, in his very interesting paper, mentions an author who reports the complete absorption of an extra-uterine fœtation at the fifth month, within three weeks, by the use of electricity. To this statement, however, one would simply be inclined to give the Horatian reply of "*Credat Judaeus Apelles; sed non Ego.*"

This plan of electrical fœticide and the removal of the sac by a secondary laparotomy is very strongly advocated by Dr. Thomas, of New York. And as has been said, if there is a reasonable certainty in diagnosis, the laparotomy ought not to be delayed until serious symptoms arise. For even if the placenta does not continue to grow after the death of the fœtus, as some authorities claim, yet what from its abnormal position is certainly a foreign body, ought not to be allowed to remain a constant menace of danger.

It is admitted, however, that an early diagnosis in extra-uterine pregnancy is rarely made until after rupture of the sac, bringing with it a train of dangerous and alarming symptoms.

Here there is of course but one thing to do, viz.: an immediate laparotomy in the hope and expectation of saving a life, which is almost certainly threatened by the double danger of internal hæmorrhage and general peritonitis. Nothing can possibly be gained by waiting, and the delays of a few hours may prove fatal.

Mr. Lawson Tait claims that all cases of extra-uterine pregnancy are primarily tubal, but the one presented by Dr. McCollom certainly seems to be an exception, and others are frequently reported which tend to disprove this statement.

These few remarks have been made simply with the idea of systematizing the discussion, which it is hoped will ensue.

To still further facilitate this object, let me ask your attention to the following questions:

1. The diagnosis being always obscure, should not every suspicious case receive the benefit of the doubt, and an immediate resort be had to electricity in the hope of thus causing fœticide?

2. This having been accomplished, when there is a reasonable certainty of the diagnosis, should not a secondary laparotomy be at once performed?

3. In other more doubtful cases, after the use of electricity, may we not safely wait for further developments?

4. Will safe doses of electricity cause absorption of the fœtal products?

5. For purposes of fœticide, which is the safer, and at the same time surer agent; the continuous or the interrupted current?

6. What with either is the proper dosage?

7. When rupture has occurred, with its usual train of alarming symptoms, should not a laparotomy, or at the least, an exploratory incision, be at once resorted to?

8. Can the expulsion from the uterus of the decidua be regarded as more than confirmatory evidence; or is it a pathognomonic symptom?

9. May we not have extra-uterine fœtation which is not primarily tubal?

2 *St. James Place, Brooklyn.*

PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

June 5, 1888.

EXTRA-UTERINE PREGNANCY: A DISCUSSION.

[Following the paper of DR. T. M. ROCHESTER. See page 224.]

Dr. Avery Segur:—I will leave the task of vindicating the diagnosis (in the case which I reported) to Dr. Skene, with a single remark: That if we general practitioners cannot be certain that our diagnosis of extra-uterine pregancy is correct, no more can experts be certain that their diagnosis that it is not extra-uterine pregnancy, is correct. In a note that Mr. Tait writes to the *Medical News*, May 26, he says that he has seen more than seventy cases of extra-uterine pregnancy and that in the only one he saw before the rupture of the sack, he made a diagnosis of a tubal cyst and inflammation of the Fallopian tubes, but that it proved to be a pregnancy.

I make that remark as an introduction to the principal statement that I want to make. The effect of my sad experience in the case that passed under my observation has been to make me regret very deeply that I was not able and that nobody was able to make an earlier diagnosis of the case. I do not regret that the diagnosis of extra-uterine pregnancy was made; I do not doubt the correctness of it but I regret that it was not made weeks earlier. That is often a regret, I fear, in our practice. I was in Morristown last week, calling on a medical friend and he told me about a woman who had come back from New York, where she had been on a visit, and she had an eruption which her physician diagnosticated as chicken-pox. After she had had it a week and spread infection in the town it proved to be small-pox. We are never looking for these misadventures; they come upon us unawares. I recall also a case of confluent papular eruption, which was called "black measles" and which turned out to be small-pox and was the first of an epidemic of small-pox in a large village. As Dr. Rochester has said, my case did not have any of the collateral symptoms; there was no change in the mammary glands; no morning sickness nor any of the symptoms which point to a pregnant condition, except the fact that the lady had passed some menstrual periods, which is not an uncommon thing. About the tenth week there is a great probability that the cyst will rupture. That is much too early for you to expect that there will be any symptom to make the woman call for you and ask your professional advice. Mr. Tait writes that in over seventy cases of extra-uterine pregnancy he was only consulted in one before the rupture occurred. When the rupture occurs, or if not a rupture very serious symptoms, then perhaps you will be called to the case and you will find as Dr. Skene found in my patient, so much abdominal tenderness that it is impossible to make manual exploration. The authorities say that where there is such tenderness and so much pain and perhaps an inflammatory condition of the local peritoneum, you are very much hindered in the local examination which you institute. That was the case in my patient. Dr. Skene after eighteen hours saw the patient and he was unable to satisfy himself of anything more than an extra-uterine growth, the nature of which he could form no judgment about, as there had been no previous symptoms of pregnancy. I do not think that the idea occurred to him at the time that it was a case of extra-uterine pregnancy; at any rate he did not suggest it to me. It was some three or four weeks afterwards that a subsequent painful seizure, with the discharge of *decidua* made it very probable that it was a case of extra-uterine pregnancy and enabled the doctor to then form his diagnosis, to which he adhered to the end.

There is one hopeful point, perhaps, about these cases. I judge from what Parry writes on the subject, that many of the painful paroxysms do not necessarily imply a rupture; they are something short of that serious and compromising accident. It may be fairly expected I think that in the majority of cases the practitioner will have the warning localized pain before the rupture occurs, and the question is whether in the occurrence of a strictly localized and prostrating pain in the pelvis—which seems to be a characteristic feature—we ought not, as a working hypothesis, to expect a pregnancy out of place and make a thorough examination to discover if there are any corroborating local signs.

If we overlook the significance of the occurrence of these local and severe pains, even without the collapse that accompanies the hæmorrhage, I am afraid that we shall have occasion, some time, to regret a lost opportunity; for sooner or later, in the majority of cases, a rupture will occur.

I should say, then, that we may hope that the first painful paroxysms will precede a rupture of the cyst and that there will be time, before that occurs, to have discovered reasonable grounds for the diagnosis of extra-uterine pregnancy.

Dr. J. C. Bierwirth:—In the case which I reported at the last meeting, I stated that Dr. Charles Jewett used the curette. I wish to explain that he did that simply to suit his convenience. He used the curette as a sound, for purposes of exploration, and not as a means of curetting the uterus.

Dr. A. H. Buckmaster:—I must take exception to some of the remarks of the first speaker, who stated that he doubted the correctness of the diagnosis of ectopic gestation in the case reported by Dr. Segur. He said in this case there was absence of the usual signs of pregnancy. The woman had passed over three months, and that is one of the best signs we have of early pregnancy. To be sure, the mammary symptoms were not marked, but there are many cases where the mammary signs are of very little importance before the fourth month, and where there is no nausea and other of the less significant symptoms of pregnancy are absent. A case that has passed over three months, and is seized with violent cramp-like pains and shock resulting from internal hæmorrhage—a case exhibiting these signs and passing decidual membrane, the authenticity of which is declared by a competent man, should present no difficulties for a clear diagnosis. In regard to the fact that no fœtal remains were found, I did not see this operation, although I had part of the after care, and I can only state what the gentlemen told me in regard to it. Dr. Skene opened the abdomen and found many adhesions, which he separated. There was a very severe hæmorrhage, and the patient was so weak that they were obliged to stop finally, fearing death would ensue from exhaustion, and no critical search was made for fœtal remains. I would like to ask Dr. Segur how long after the time she menstruated these cramp-like pains were first noticed?

Dr. Segur:—She menstruated in August, and the first paroxysm of pain occurred in October.

Dr. Buckmaster:—It is possible that the rupture took place at that time. Undoubtedly *there was a rupture*, and it is possible that the fœtus may have escaped the notice of the operator among the mass of adhesions.

In regard to secondary laparotomy, Dr. Rochester spoke of the use of electricity to kill the fœtus, and said that he would advise doing a secondary laparotomy after the fœtus was destroyed. If there is any advantage to be derived from the use of electricity, it is that we avoid the risks of an abdominal section. I think the gentleman misquotes Dr. Thomas. Thomas does not believe in operating after the fœtus is destroyed, unless there are reasons to fear sepsis.

In regard to making the diagnosis previous to the rupture, if the gentlemen on the other side of the water are unable to diagnose these cases, I can only say that we can do so here. Dr. Hawley, of New York, operated on two cases before rupture of the sac, and in both cases he saved the patients. Those were two of the first three or four that have ever been done.

I think the case which Dr. McCollom presented to us is a case of tubal pregnancy. The normal tube is from four to five inches long, and in this case the expansion of the tube commences about two inches from the uterus. I think it was a case of tubal, and not abdominal, pregnancy.

In regard to the best manner of using electricity, I have lately given the subject much attention, and agree with Dr. Rochester that the galvanic current affords the best means for destroying the fœtus for these reasons: It is *certain;* the fœtus may be destroyed at one sitting; by means of a rheostat the current can be turned on gradually until 20 to 150 milliamperes are reached, a current that will destroy fœtal life beyond all doubt. The faradic current has this objection—there is always more or less shock and danger of rupture. With the interrupted galvanic current the danger is increased, and it has no advantage over the faradic. We may readily imagine that a shock sufficiently great, sufficiently strong, to throw the patient off the table will break a tube on the point of rupture, and I think that this method is a dangerous one, and ought not be used.

Dr. Bierwirth spoke of trouble in getting an electrode. I do not think it is necessary to have a special electrode. I have no doubt that any gentleman here has instruments that would answer the purpose in an emergency. All that is needed is a catheter of steel or any metal, and a drainage-tube insulated in some manner, particularly if the faradic current is used.

If you wish to use the galvanic current two electrodes are necessary, an abdominal and a vaginal electrode. The former is readily improvised as follows: A piece of sheet copper, to be obtained at any plumber's at a trifling cost, can be cut to the shape desired with tinner's shears, and a hole punched through it so that the connecting wire may be readily attached. Between it and the abdomen is placed a thick layer of cotton, which should be dripping wet. For the vaginal pole the following expedient may be adopted: Withdraw the stilet of an ordinary catheter and cut the end off, leaving six inches of the butt; replace the stilet and bend it on itself, and wind about it a mass of wet cotton; make a secure attachment of the connecting cord to the ring of the stilet, and we have a perfect vaginal electrode. Remember that the *negative* pole should be used in the vagina. All that is necessary, in addition to this, is a rheostat and battery. The former the writer has improvised in the following manner: Take the electrodes of a battery in your fingers which are submerged in a vessel of water, and approach them very gradually until the patient complains of great pain. With a little practice this can be skillfully done, and answers the purpose. Mr. John Barrett has invented an excellent dry rheostat, which can be carried in the pocket. His chloride of silver battery is a great comfort, because never out of order and very portable.

Another point in regard to the electrodes. So far as the destruction of the fœtus is concerned, it makes very little difference whether the positive pole is used inside or outside, because the death of the fœtus occurs from the direct effect of the current. But it is well known that the positive pole has a marked sedative influence, and as in almost all of these cases there is a great deal of pelvic pain, the positive pole may, in many cases, relieve it entirely; and such was the case in a case of extra-uterine pregnancy where I used the current; the patient had been suffering a great deal, but after the first application she was relieved and felt better.

I have only to say, in conclusion, that I think most of these cases ought to be diagnosed. Of course, where the rupture occurs very early, it may be impossible to do anything; but, as Dr. Segur remarked, these spasmodic pains usually occur several times before the rupture, and the woman who has passed over one period with these pains, and with a fluctuating mass to the side of the uterus, easily made out, presents a case about the diagnosis of which there cannot be much room for doubt.

In very doubtful cases I don't think the physician should be satisfied without an examination under an anæsthetic. It is a very simple thing to give a little chloroform or ether to make sure, and there is probably less danger of doing harm, in the hands of a careful man, with the anæsthetic than without.

Dr. Charles Jewett:—The method of Apostoli consists of electro-puncture of the sac. This practice is undoubtedly effectual, but it is also most dangerous, and must be condemned. The danger is from sepsis, as was the case in the now obsolete simple puncture for the injection of drugs. Moreover, puncture is uncalled for, since we have in electricity, without puncture, a simple, safe, and certain fœticide.

With reference to the various points that have been raised in the recent discussion of the subject of extra-uterine pregnancy, I cannot do better than to attempt briefly to answer the questions propounded in the first paper of this evening's discussion:

"1. The diagnosis being always obscure, should not every suspicious case receive the benefit of the doubt, and immediate resort be had to electricity, in the hope of thus causing fœticide?"

That question can certainly be answered in the affirmative. The use of electricity, in obscure cases, can be open to no objection whatever. No harm can be done, under a mistaken diagnosis, by the careful use of this agent. On the other hand, the brilliant success of this means of fœticide, in an experience in our own country, now amounting to nearly forty cases, is sufficient to establish the importance of resorting immediately to electricity, where there is a reasonable suspicion that the patient is the subject of extra-uterine gestation.

"2. This having been accomplished, when there is a reasonable certainty of the diagnosis, should not a secondary laparotomy be at once performed?"

The answer to that question, I think, is, unqualifiedly, "no." If the patient is doing well, why subject her to the perils of laparotomy, for mere prospective dangers, which, in our American experience with electricity, have seldom appeared, and have never, with perhaps the single exception of Dr. Janvrin's case, proved fatal. Fœticide, then, should not be supplemented with laparotomy, unless special indications arise, such as sepsis or some other accident, by reason of which the retained ovum compromises the safety of the patient. Should, however, the necesssity arise for opening the abdomen, a length of time after the death of the ovum, the parts would undoubtedly be in better condition to tolerate surgical interference, than before the physiological activity had ceased. The alleged dangers after fœticide by electricity, have been greatly exaggerated. The after-history of patients treated by electricity without puncture, shows no bad symptoms, except in perhaps a half dozen cases. Some unpleasant results, developed in the first two cases, reported by Dr. J. G. Allen, of Philadelphia, who, I believe, is entitled to the credit of establishing this treatment. Peritonitis followed in a case reported by Lusk, at the eighth month of gestation, and suppuration in another in the hands of Dr. Chadwick, of Boston, at the fifth month, yet all recovered. The best evidence that the placenta does not perpetuate the danger by continued growth is the fact that the after-histories of reported cases of fœticide have shown nothing to justify the assumption.

" 3. In other more doubtful cases, after the use of electricity, may we not safely wait for further developments ?" That question has already been answered.

" 4. Will safe doses of electricity cause absorption of the fœtal product ?"

I do not think they will. That process is accomplished by nature, and I doubt if electricity helps it at all.

" 5. For purposes of fœticide, which is the safer and, at the same time, surer agent ?"

Three different forms of electricity are used for the purpose. The continuous galvanic, the interrupted galvanic, and the faradic or induced current. Even Franklinic electricity has been employed. From the theoretical standpoint, I agree with Dr. Buckmaster, that the continuous galvanic current would seem the safest. A strong interrupted galvanic current is probably the most objectionable. The shock which occurs from the return spark, on interrupting a current of sixty or seventy milliamperes, is most violent, and, I can easily believe, is dangerous. Yet, with interruptions, I have no doubt a much weaker current would suffice—perhaps fifteen or twenty milliamperes. The best argument for the faradic current is the fact that in a large number of reported cases it has not failed, and whatever its theoretical dangers, no death, as yet, can be charged to its use. While I think I would prefer the continuous galvanic current, an important advantage of the induced current is this : That almost every practitioner has a faradic battery ready for use, while comparatively few are provided with a suitable galvanic plant.

" 6. What with either is the proper dosage ?"

The dose is larger than at first advocated in case of the faradic current, and should amount to the full strength, if possible, of a two-cell faradic battery with the magnet nearly wholly uncovered. An anæsthetic may be required if the patient cannot otherwise tolerate a sufficient amount. The length of the application should be longer than formerly practiced—probably not less than a half hour to an hour. Dr. Van de Warker reports a case in which the sac began to shrink after sittings of an hour, half-hour sittings having failed. The electrodes should be brought in as close proximity to the tumor as practicable—one over the abdomen, the other in the vagina or rectum. The choice of poles is immaterial, since the induced current of a faradic machine is a to-and-fro current, the polarity changing with each impulse. The sittings should be repeated daily, or on alternate days, till the tumor shrinks.

With the continuous galvanic current the dose should be all the patient can bear. It is important to kill the fœtus as quickly as possible, at the first sitting, if practicable. From sixty to one hundred milliamperes, for five or ten minutes, are generally well borne. A still larger dosage may be practiced by aid of an anæsthetic. The patient should be kept quiet for two or three hours after the use of the current, yet it is common, in gynæcological practice, to allow office-patients to go directly home after applications of one hundred or two hundred milliamperes.

"7. When rupture has occurred with its usual train of alarming symptoms, should not a laparotomy, or at least an exploratory incision be at once resorted to?"

After rupture with hæmorrhage and collapse laparotomy is imperative. On this point there can be no difference of opinion. I have recently seen a case which survived the most alarming symptoms without surgical interference, yet such cases are extremely rare. It is not always easy to gain the consent of friends in season to be of service, the majority of such patients dying within twenty-four or forty-eight hours after rupture. The number of successes thus far is small, but four, I think, in this country and one in Canada. Of course, all are familiar with the thirty-five cases of Tait, with thirty-three recoveries. Martin, too, of Berlin, has operated nine times, saving eight.

If thought best, the operation may be begun as a simple exploratory incision, the peritoneal cavity not even being opened unless evidence of blood be found there. The presence or absence of blood in the cavity may generally be determined by inspection through the uncut peritoneum; or a glass pipette may be passed through a minute opening. Evidence of hæmorrhage being found, there can be no hesitation in going further. Tait says the operation is simplicity itself. He lifts up the sac, ligates the broad ligament at its base, amputates, clears away the débris and puts in a drainage-tube.

8. "Can the expulsion from the uterus of the decidua be regarded as more than confirmatory evidence, or is it a pathognomonic symptom?"

The expulsion of a true decidual cast, which proves, on competent examination to contain no fœtal structures, I regard as pathognomonic. This sign, when well made out, means ectopic pregnancy. Unfortunately, it may come away in fragments and be lost, or for other reasons is not always available.

9. "May we not have extra-uterine fœtations which are not primarily tubal?"

I think we may. The possibility of ovarian pregnancy has not yet been disproved. Tait thinks all reported cases of supposed abdominal pregnancy can be otherwise explained, with the single exception of Mr. Jessop's case, which is doubtful. There is a case reported by Koeberle which is classical, and which possibly bears upon this question. A woman had sustained an amputation of the uterus for fibroma. A fistulous opening remained through the cervical stump. Two years after the operation she became pregnant. This was a case of abdominal pregnancy, and yet it is possible even here that the implantation of the ovum may not have been primarily on the peritoneum.

With reference to the question of diagnosis: The diagnosis, I think, is possible in at least fifty per cent. of cases or more before rupture. It occasionally happens, however, that the first evidence of the misplaced pregnancy is afforded by the rupture of the sac and its sequels. Usually there is a series of painful paroxysms at intervals before the sac bursts, which are sufficiently characteristic.

The more important diagnostic points are about as follows: In a large proportion of cases there is a long period of sterility preceding the pregnancy. Generally the patient has missed a period, and the ordinary signs of pregnancy are always present nearly as in the corresponding stage of normal gestation. Two prominent symptoms are pain and hæmorrhage. The pain is of a characteristic kind, and is generally localized. I recall a case in which the first pains were referred to the rectum, then to the urethra, and my attention was first directed to these organs, yet the pains were soon definitely referred to the true seat of the trouble. The attacks of pain are abrupt; coming out of a state of apparent health, are of a cramp-like character, with repetitions after intervals of comparative freedom from pain. The severity of the pains is from the first most acute, or soon becomes so, the most violent paroxysms being attended with more or less profound collapse.

The vaginal hæmorrhage in tubal pregnancy in also somewhat characteristic. It comes in gushes of larger or smaller amount, especially at the times of the painful paroxysms. It may for a while be a mere *guttatim* flow, a more or less copious hæmorrhage always attending the rupture. These symptoms, with the expulsion of a decidual cast containing no fœtal villosities, alone make the diagnosis. But they are not always all present.

Still more conclusive evidence is afforded by the bimanual examination of the pelvic contents. The uterus is almost always developed and in proportion to the proximity of the growing ovum. Rarely cases are said to occur in which the uterus is not enlarged. I am disposed to think that this is possible only in the latter months, the uterus having gone back to its normal size after development in the earlier months. More important is the discovery of a tumor by the side of the uterus or behind it in the sac of Douglas. This tumor has the characters of a fluid tumor. It is globular or nearly so, it fluctuates, is tense, and is extremely sensitive. In the absence of adhesions you can toss it on the finger. In more advanced pregnancy ballottement of the fœtus in the tumor is possible. One point more, and this is a most valuable one for differential diagnosis, it is a rapidly growing tumor.

At the time of rupture there is a most violent paroxysm of pain, sometimes accompanied with a sense of tearing, and immediately followed by a gush of blood from the vagina, and the well-known symptoms of internal hæmorrhage with profound collapse. The whole picture at this stage is so characteristic that it can hardly be mistaken. Unfortunately, the diagnosis is then too often of little avail.

Dr. Rochester:—A few words in regard to the point which both Drs. Buckmaster and Jewett discuss—laparotomy after fœticide. As I understand it, electrical fœticide is a matter of quite recent experience. It is only lately that it has come into permanent or general usage, and the number of cases are not, as yet, so extensive as to definitely settle what may be expected from it, except as to the general benefits of the operation. That being so, I really am at a loss to understand why we should delay laparotomy if, as I said in my question, we feel reasonably certain of the diagnosis. What are we going to gain by waiting until the symptoms, and consequently the effects, of septicæmic poisoning have set in? Looking at this matter from a surgical point of view, what is the advantage of waiting until we get the evidence of septicæmia before doing laparotomy? Is the patient in any better condition? On the contrary, does not the septic infection increase the danger? Now, by secondary laparotomy is meant a laparotomy within two or three weeks after the electrical current has been used, and before any septicæmic trouble has set in.

Dr. Jewett:—I do not think I recommended laparotomy during the life of the fœtus; it was only in cases of rupture.

Dr. Wm. McCollom:—I think that Dr. Rochester's arguments in favor of laparotomy to remove the ectopic growth after its life has been destroyed by electricity are not well grounded. I protest against the teaching of subjecting the patient to the great risk of a laparotomy in such cases until symptoms arise which necessitate the operation. In view of the fact that a good many cases have been reported where, after electrical fœticide, they have been left to nature and recovery has resulted, we should not subject our patients to the grave danger of an operation to extirpate an encysted, lifeless growth; not, at least, until it is shown that the operation can be practiced with less mortality than in the past.

It is possible that laparotomy after fœtal death without rupture of the sac might give better results than laparotomy after rupture, but we have no data to establish it as a fact.

The results of secondary laparotamy, *i. e.*, operation after rupture, have not been satisfactory, though August Martin has reported eight successful operations, and Tait claims to have operated successfully, after rupture of the tubes, in many more cases, in a few years, than any other physician in the world ever saw. Tait's reports of his cases have not been full and satisfactory, and he acknowledges that in some of them he found no fœtus. It is an open question whether or not they were all cases of extra-uterine fœtation.

So long as what may be called the American method of treatment, the insuring the death of the ovum and expectancy, shows as good results as in the past, laparotomy should not be advised.

I was interested in Dr. Jewett's remarks, particularly so because his views as to treatment harmonize so well with my own, as expressed in my paper read before this Association. He speaks of two facts which I wish to notice: First, the increased development of the uterus and appendages on the side where the pregnancy exists. A cut of the specimen I presented, which is an excellent one, clearly shows that the right side of the uterus had developed more than the left. This fact was noticed before the death of the woman on examination of the os. He also spoke of the uterus remaining enlarged, in some cases, after the termination of the gestation, and in other cases of its shrinkage to near the normal. I remember removing the uterus, *post mortem*, a few years ago, of a woman who had carried a fœtus several years, where there was no enlargement of the uterus and nothing abnormal in appearance.

Dr. Buckmaster refers to the case I reported, and represents that I classed it as an abdominal gestation. This is a mistake. I said that an examination of the specimen seems to show that the point of conception was in the ostium abdominale or fimbriated extremity of the right Fallopian tube; and as development progressed the cyst formed an attachment on one side to the abdominal parietes; its only other attachments were points of union with the right broad ligament and fimbriated extremity of the tube. There is no evidence, from an examination of the specimen, to show that conception was within the tube.

Dr. Jewett:—Dr. McCollom has called attention to the one-sided development of the uterus. That was not what I intended to refer to in my remarks. I meant to say that the enlargement of the uterus, as a whole, is in proportion to the proximity of the ovum.

Dr. Buckmaster:—I must adhere to my opinion that the secondary operation is dangerous in these cases, because laparotomy is always hazardous. If the woman is getting well without it, I think we should delay operating, for experience has shown that the patient may regain her health entirely. While there is a chance of this we should not subject her to a dangerous operation.

SELECTIONS.

FÆCAL FISTULA.* By W. M. Banks, F.R.C.S., Surgeon, Liverpool, Royal Infirmary, Professor of Anatomy, University College, Liverpool.

The unhappy possessor of a fæcal fistula, like the victim of urinary fistula, lives a most miserable life. If the fistula be low down in the intestine, nutrition may go on as well as ever, but if it be high up and much of the intestinal contents escape, then the patient gradually dies of inanition. But whether the patient live for a long or a short time, it is clear that life is only carried on under the most distressing and disgusting conditions. To Dupuytren we are indebted for the use of a means of cure which, if well and carefully managed, will remedy the great majority of those cases where the formation of an eperon or spur constitutes the obstacle to recovery. But there will always remain a certain number of cases where the only apparent cure is to open the abdomen, detach the bowel from its adhesion to the abdominal wall, and in some way restore to it its original continuity. The case which I propose bringing before you is an instance in which this last method of treatment was successfully pursued.

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*Read at Medical Institution, March 29, 1888.

The patient, Catharine Bethell, was a married woman, æt. 40 years, who was admitted into the Royal Infirmary in September, 1887. She told us that about three years previously she had strained herself leaning over a tub. Almost immediately afterward she began to have pain in the abdomen, and vomited for four days, at the end of which time the matters vomited were fæcal in character. During this period there was absolute constipation, and she passed no flatus downwards. She then discovered that she had a small hard lump, about the size of a marble, in her right groin, and sent for a doctor. He ordered poultices to be put upon it, but as the lump very naturally did not get any smaller, she sent for another medical man. He evidently recognized the lump as a femoral hernia, and reduced it by manipulation. After this the vomiting ceased, and the patient passed flatus downwards. Her appetite also returned, but she had no evacuation of the bowel, for three weeks. Meantime she observed that her groin was swelling and the skin over the inner side thereof, was becoming red. Presently it gave way and a quantity of yellow fluid was discharged, which had a fæcal smell. The groin being well poulticed most of the swelling went down, leaving a sinus from which fæcal matter continued to flow. After a while one or two other sinuses appeared higher up, near Poupart's ligament, and only six weeks before her admission two others formed low down on the inner side of the groin.

During all the time that elapsed from the formation of the first opening to the time of her admission, a period of nearly three years, she passed solid motions by the rectum, but fæcal fluid and flatus also came through the sinuses. Only having the woman's own statements to guide us, we were at first somewhat dubious about this history, but she was so clear and so certain about what she told that we were obliged to admit its accuracy. We concluded from it that the act of straining over a tub had brought down a femoral hernia, which became strangulated, and that as a result there was vomiting and complete obstruction of the bowels for four days. At the end of that period the hernia was reduced and the symptoms of strangulation disappeared, but soon an abscess in the groin formed, from which fæcal matter flowed. But one naturally inquires—How did the perforation of the gut occur? Was the hernia really reduced, or did the bowel simply lie strangulated in its sac, give way, allow its contents to escape, and so produce an abscess? I feel pretty certain that the bowel was reduced, from the fact of the vomiting and signs of obstruction disappearing almost immediately after the manipulation. It may be argued that, if the bowel was once reduced and then gave way, its contents must have escaped into the peritoneal cavity, and so infallibly caused death. But this is by no means necessarily the case. When a piece of bowel is reduced, it may lie for some time just within the femoral ring, to which it becomes rapidly adherent. In less than twenty-four hours peritoneum will become glued to peritoneum with such an amount of firmness as quite to resist the passage of fluids or semi-fluids. The gut, then, being reduced, when practically gangrenous, adheres to the inner side of the femoral ring, and then, giving way at a point opposite to it, discharges its contents through it. That such occurs is not very commonly known; but I have seen two cases in my own practice, where surgeons operated upon strangulated femoral hernia to the complete relief of the symptoms of strangulation, where the patients went on quite comfortably for some days, and where after that time fæculent matter began to come down the wound, and a fæcal fistula resulted. I believe this to have occurred in the present case; the bowel having given way, its contents escaped downwards through the femoral canal into the sac, which speedily suppurated and formed an abscess, which made its way to the surface.

On admission the patient was noticed to be a fine, healthy-looking woman, well nourished, and with a good color. On the upper and inner side of the thigh were about half a dozen sinuses, reaching from the inner end of Poupart's ligament downwards for four or five inches. From the upper ones a thin fæcal fluid was almost constantly streaming. The tissues were hard and inflamed all about, and the skin was red and eczematous from the constant contact of irritating matters. The result of such a state was, as can well be imagined, that the woman's life was rendered very miserable indeed.

Obviously, the first thing to do was to get the parts in the groin into a healthy and aseptic state, so, in the beginning of October, I slit up all the sinuses, scraped them well with a Volkmann's spoon, and packed them with lint steeped in turpentine. This is hardly the time to extol the virtues of turpentine, but, in my experience, there is no remedy at all to be compared with it in its power of cleaning up old sinuses or sweetening sloughing wounds. Being a common and old-fashioned drug, it has been thrown into the shade by more modern rivals, but it will see most of them out yet, I believe. The slitting up of the sinuses enabled us to get directly at the passage by which the fæculent matters escaped. It corresponded exactly with the site of the femoral ring, and a probe when passed up it moved freely about in the bowel. Nothing very definite in the way of an aperture was too small to admit of a plan of treatment which I shall allude to presently, and which in one or two cases has assisted the cure. For the same reason Depuytren's enterotome was obviously not of any avail. The fact that there was no spur was an additional proof that the bowel had been returned into the abdomen, because, when the gut is not put back (as when we find the bowel gangrenous in operating for strangulated hernia, and simply slit it up), a spur always is found. Two months were employed in getting the sinuses to granulate up and heal over, and in getting the skin into a healthy state. By constant rest on the back in bed, aided by careful diet and pressure over the orifice, it was hoped that something might have been done towards reducing its size. But not the least good resulted, and the drain of liquid fæces continued just the same as before. There was now nothing left but some operative procedure, and I came to the conclusion that the best thing to do was to open the abdomen, separate the bowel from its adhesions to the abdominal wall, and either stitch up the hole in it or excise that piece in which the hole was.

An aperient was administered to clear out the bowels, and the patient was starved for twenty-four hours, so that, if possible, the gut should be quite empty. Then, on December 7th, I made a vertical incision in the abdominal wall parallel to the median line. I extended from a point about four inches above Poupart's ligament down to the sinus over the position of the saphenous opening. I cut very steadily down through the tissues, dividing the ligament itself. Many small vessels, of course, had to be ligatured, but the only one of consequence was the epigastric, which was cut and tied. Then the peritoneum was slit up, and the small intestine (apparently a piece of jejunum) found adherent to the femoral ring. I dissected it off, thus leaving a hole in it larger than a threepenny bit, and elongated in shape. I tucked in the edges of the hole, and then stitched the peritoneum from side to side across it very carefully with cat-gut. When this was completed, however, the lumen of the gut was so much reduced in size that I was seriously apprehensive that there would not be room enough for the contents of the bowel to pass, and for a moment I thought of cutting the whole piece bodily out. I considered, however, that what goes down the upper part of the small intestine is very thin material, which would find its way through a comparatively small bore, and so allowed matters to remain.

Deep peritoneal and muscular stitches were put in along the abdominal wound, and afterwards superficial ones. But I had in view the possibility of the hole in the bowel breaking open, and so I left the last inch of the abdominal wall unsutured, and I tacked the bowel with a stitch through its peritoneal coat to the parietal peritoneum, in such way that the closed orifice lay just opposite the lower part of the abdominal wound. Thus, if the orifice did open and fæcal matters escape, they would have a chance of getting an exit externally, if the bowel became glued to the abdominal wall. Although the theory of the operation was quite simple, the performance of it took about an hour and a half.

During the first four days after the operation the patient remained very quiet, her temperature hardly rising at all, and her tongue remaining moist. She had hypodermic injections of morphia to soothe pain and keep the bowels at rest, and received only an apology for nutriment in the shape of a little brandy and meat juice. On the evening of the fifth day I was hurriedly summoned to see her, and found that, after a cough, a piece of omentum, which would weigh about three or four ounces, had suddenly shot out from the lower part of the wound, and was lying upon the thigh. I put three ligatures through its pedicle, cut it off and gently pushed the stump into the abdominal cavity. I then put a couple of stitches through the hitherto open lower end of the wound, to prevent the occurrence of any such protrusion again. The accident did not seem to produce any harm whatever to the patient.

The rest of the case is soon told. On the seventh day after the operation flatus was freely passed, and on the eighth the bowels acted. The wound steadily granulated up, and at the end of seven weeks the patient went home quite sound, and with the bowels acting naturally.

In the treatment of fæcal fistula, or false anus, one must be guided largely by the manner in which the fistula has arisen. In one set of cases an inflammation in or around the gut (or in both situations) is set up; the gut adheres to the abdominal wall, and abscess results, into which the bowel opens, and an outward evacuation takes place, the peritoneal cavity being shut off by adhesions. Or the bowel may open at a point where it has no peritoneal covering, as in the case of the ascending or descending colon. In this class of cases the bowel never leaves the abdominal cavity, but simply adheres to the abdominal wall, without any acute bend in its course. A variety of this form occurs as the result of hernia, where strangulation has been so sharp that, although at the time of operation the bowel does not seem dead, it speedily dies after reduction. The same thing (as in the case of my patient) may occur when a gangrenous piece of bowel has been reduced by taxis without any operation. And the manner in which the false anus is formed, without invasion of the general peritoneal cavity, has been alluded to. But in the second great class of cases, the bowel in a hernia becomes gangrenous, an operation is done, and the dead bowel is not returned, but simply slit up or cut away. Here, at the hernial aperture, an acute bend permanently remains, the adjacent surfaces of the bowel just within the aperture become glued to each other, and a spur results, which acts as a barrier to the intestinal contents passing onwards. In the first class there is no spur; while in the second, as a rule, there always is one.

For the first class of cases a great deal can be done by rest, proper diet, opiates, and pads applied over the surface of the aperture, so as to block it up. And it is astonishing how, even in the second class, nature effects a cure. The first instance I ever saw, was many years ago, in the person of a man, upon whom I performed herniotomy, and found about six or eight inches of small gut gangrenous. I simply slit it up, and left the parts otherwise untouched. The dead gut sloughed away, and a false anus resulted. From the stomachal end of the gut all its contents at first escaped, but gradually all the parts tucked up and closed in, and a spontaneous cure resulted. I have now seen this occur on two or three occasions.

In the instances where there is no spur, and where all the usual trials of rest, diet, escharotics, and pads have failed, I imagine that the only satisfactory plan of treatment is by opening the abdomen, detaching the gut from its wall, and either stitching up the hole therein, or cutting out the piece in which the hole is situated. To dissect off the skin around the false anus and bring it over the aperture has proved a complete failure. The thin fæcal matter works its way very soon outwards, and the union breaks down.

In the fistulæ where a spur exists, and where milder measures of treatment have failed, some good may occasionally be got by the introduction of a rubber tube in such a way as to press against the spur, a method which I described a few years ago in some *Clinical Notes* which I published. Failing this, Dupuytren's enterotome may be used, or some of its modifications. But there will always be a residuum of cases which resist all manner of treatment, and where laparotomy, with stitching up of the orifice in the gut, or excision of that portion in which the orifice exists, will have to be performed. In 1883, Mr. Makins, of St. Thomas' Hospital, excised a portion of bowel for the cure of a fistula with success, and published in the Hospital *Reports* an admirable table of all the cases he had been able to collect up to that date. He found published records of thirty-nine cases, with a mortality of fifteen, or nearly forty per cent. This is a very heavy death-rate, and contrasts most unfavorably with Dupuytren's celebrated table of forty-one cases treated by his enterotome, where there were only three deaths, *i. e.*, at the rate of about seven per cent. On the other hand, after resection, the cure was almost invariably complete; whereas out of Dupuytren's forty-one cases, nine were not improved. *Per contra*, our rapidly improving knowledge of abdominal surgery will, without doubt, give in the future a much diminished death-rate, and enable us to attack cases of fæcal fistula which will not yield to milder means with a much more confident hope of success. In Dupuytren's original paper, he says: "It is something, no doubt, to have re-established a communication between the two ends of the intestine, and to have placed them in a position to bear without accident a compress which compels the contents to pass from the upper to the lower part of the gut. But something, I confess, remains to be done. We have still to find a means of causing an opening in the skin, now become useless, to cicatrize in all cases. I am so impressed with the necessity of discovering some means of the kind, that I do not hesitate to propose this as a study to the rising talent of our schools. And I declare without hesitation that the discovery of some method, which should furnish promptly and without danger and, in every case, the cure of this disgusting malady, would be worthy of being considered one of the most important achievements of which the healing art can boast." We have not quite reached this stage yet; but some day we may do so.

ON THE IMPORTANCE OF PRIMARY SUTURE OF THE DIVIDED NERVES, WITH AN ILLUSTRATIVE CASE OF SUCCESSFUL SUTURE OF THE MEDIAN AND ULNAR NERVE.* By Charles B. Nancrede, M.D., Surgeon to the Jefferson Medical College Hospital, and to the Episcopal Hospital, Philadelphia.

Although I have a most profound faith in the *vis medicatrix naturæ*, I still think that Dame Nature should always have fair play in her battle with injury or disease, and this she certainly fails to receive at the hands of too many practitioners. In a paper published some fifteen years ago, I contended that, if with such vascular structures as those of the face, which certainly would unite sooner or later in some sort of fashion, we habitually resorted to suture, merely for cosmetic effects, we were all the more bound to do so for such vascular structures as tendons, which, if they failed to heal well, much more if no union was secured, must entail disability or total uselessness of a member. Nowadays a surgeon who should fail to suture a divided tendon would be derelict in his duties. In like manner I trust that in the near future the general practitioner will be so impressed with its importance that he will consider that his duty is unfulfilled until he, or some surgeon summoned by him, has sutured any divided nerve. It is needless for me to dilate upon the evils consequent upon the abolition of function of an important nerve, but I would recall to your minds cases which have occurred in the practice of most of those present, where divisions of even such small trunks as digital nerves have resulted in troublesome ulcerations, causalgias, etc.

Doubtless the indifference of practitioners to wounds of nerves, or, more strictly speaking, their inclination to "leave them to Nature," has arisen from two causes, viz., (1) the fear that suturing might in some way determine tetanus, and (2) the well known fact that nerves divided or even excised with the avowed intention of abrogating their function, too commonly reunite. The first cause should not deter us, as we now know that a suture, *per se*, can never originate tetanus; while as to the second objection, certain facts which I shall submit for your consideration warrant the conclusion that traumatic divisions of nerves, unless effected by a clean cut—or perhaps ball wounds—involving solely the nerve and little, if any, of the contiguous structure, differ so materially from those purposely effected by the surgeon's knife that conclusions derived from the result of neurectomies cannot safely be applied to accidental divisions of nerves. Besides, granting that reunion will occur without suturing, as a stitch can do no harm, why not use one, since it will at least conduce to a more rapid resumption of function? While primary union of nerves with immediate resumption or function—*i. e.*, in a week or ten days, is a surgical rarity, yet it does at times occur, and would doubtless be of more frequent occurrence if suture were the rule and not the exception.

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* Read at the meeting of the Philadelphia County Medical Society, March 14, 1888.

My aim in this brief note is merely to call your attention, as general practitioners in whose hands many of these cases will fall, to the *duty* of suturing divided nerves as a routine practice, just as you would tie arteries, and to describe a simple, effective method of carrying out the indication. A critical examination of the histories of nearly all exsections of nerves where reproduction has occurred, will show that they were removed either from a bony canal or from an intermuscular space in which they normally laid, *with the minimum* of injury to the surrounding tissues. Moreover, even when their ends have been turned back and sutured in position, or even buried in the surrounding tissues, they have been so secured in the same intermuscular space which the nerve normally traverses. In other words, the bony canals and the intermuscular spaces likewise, act as moulds which direct the course of the reparative material from the proximal to the distal end of the severed nerve. In extensive wounds, however, this condition does not obtain. Intermuscular spaces are dislocated, large masses of scar tissue are formed, so that instead of the new nerve-tissue being *compelled* to grow in only one, and that the right direction, it has too often an insuperable barrier interposed, and union fails.

In the case which I now show you.* the proximal ends of the ulnar and median nerves were directed at right angles to their intermuscular space, and would have been infallibly fixed between the ends of the torn muscles in a dense mass of scar tissues, resulting in permanent loss of power of the member. In the seventh month after suture, *i. e.*, the usual period required for the degeneration and regeneration of a nerve, first sensation, and then motion returned, until now, although the functions of the member are not perfect, the boy can earn his living, and do nearly all that can be effected by a normal hand and forearm.

Further quotation of my own cases or those of other surgeons seems hardly necessary, and such good results as I here show you have been frequently reported.

Finally, how should the sutures be passed and what should their material be?

Fine aseptic catgut passed by means of an ordinary sewing needle is to be preferred, but fine aseptic silk can be used, and I myself have resorted to this in an emergency. Should the nerve be *very* much lacerated and frayed out, it may, perhaps, be sometimes proper to cut off a portion to gain a clean surface, but this is rarely desirable. The needle should be passed from below upward through the proximal end of the nerve at one border, across and then passed from above downward near the opposite border, entering the needle from an eighth to a quarter of an inch from the cut end, according to the size of the nerve. The needle must now be passed from below upward through the distal portion of the nerve at the border corresponding to the last passage of the needle through the proximal end, across, and made to pierce the nerve from above downward, when the suture will be found to correspond to the free end of the thread in the proximal piece of nerve.

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* In this patient the brachial artery was also torn through, leaving only a bridge of muscle and skin through which collateral circulation could be carried on. The deficient blood supply possibly explains the failure of the recovery of power in the interossei muscles, although other of the intrinsic muscles of the hand which are supplied by the ulnar nerve contract well.

Gentle traction with an appropriate position of the member will, by the tying of one knot, accurately approximate the nerve ends. In a word, by this simple method, all the advantages of the two separate sutures commonly recommended are obtained with a far greater degree of security. I need not say that the strictest asepsis should be secured, which is easy enough, provided the wounded part, the surgeon's hands, and his instruments be strictly cleansed, and the wound be freely irrigated with the bichloride and tartaric acid solution. If the surgeon gets an uncontaminated wound, it is his own fault if he has suppuration, and even with the ordinary run of accidental wounds, if he will thoroughly scrub his hands with a nail brush and hot water, and likewise so treat the parts surrounding the wound, pour boiling water over his instruments, without any further antisepsis, in most cases healing without suppuration can be secured, while the omission of these details will mar results with gallons of mercuric solution flowing over the wound.

REFLEX COUGH IN PREGNANCY. By Geo. Erety Shoemaker, M.D., Philadelphia.

That large numbers of the symptoms of every disorder are reflex it is easy to say, but it is by no means as easy to determine the paths of these reflexes, or to see why in any case one path should be taken rather than another. With the same stimulus to the same group of nerve filaments the remote results will be vastly different. So intricate are the relations of different parts of the nervous system, and so diverse the influences which serve to turn the ongoing nerve impulse in this direction or in that, that in many instances we are obliged simply to record facts and leave unexplained because unknown steps which lead to their development.

All have seen cases where, in the early months of pregnancy, the stretching or pinching of nerve fibres in the uterus has been interpreted, through the medulla, in the muscles correlated in vomiting. All know of the reflex sensations, of the vaso-motor and trophic changes, of the mental phenomena and the occasional bowel complications of early pregnancy. Instead of these, the impulse may travel from the uterine plexus through other sympathetic paths to the cord, to the medullary centre of the pneumogastric, and out along that and other nerves to the apparatus involved in a cough, and it is to this symptom that it is proposed now to direct attention.

While the writer has not been able to find reference to cough as a complication of pregnancy in the works of several well-known systematic writers on obstetrics, it is mentioned by Fancourt Barnes* and by Hodge.† From the nature of things, it is seldom that all other causes of cough can be excluded, but a case is here recorded where the regular recurrence of attacks in the second month of three successive pregnancies in an otherwise healthy woman who was not neurotic render the diagnosis as certain as it can well be. The case was as follows:

Mrs. X——, æt. 30, very muscular, almost an Amazon in physique, with general health apparently perfect, has had two children and three miscarriages, and is now in the seventh month of her sixth pregnancy. It was in 1885 that she was first seen while bleeding from a miscarriage at two months. She then stated that for several days before the uterus emptied itself she had been troubled by a cough, without expectoration, coming on whenever she laid on her back. It ceased with the loss of the uterine contents.

Second attack.—Six months later, having been well in the interval, she was again pregnant at two months. No symptoms causing distress now appeared except a cough, which for two weeks had troubled her as soon as she laid down at night, continuing at intervals till she rose, when it ceased almost entirely for the day. No pain, expectorate, or signs of respiratory irritation. A small dose of bromide of potash and chloral with hyoscyamus, taken in the evening, at once relieved the condition, which, however, immediately returned if the medicine were omitted. The tendency to cough subsided as pregnancy advanced, and the subsequent labor was normal.

A *third attack*, exactly similar, occurred when she again became two months pregnant in January, 1888. The cough continued for two weeks before treatment was sought, and then was at once removed by the same means as before, a sedative given in the evening.

The patient has never had vomiting of pregnancy. Before coming under observation she had had one child and two miscarriages, but the history of cough with these was uncertain.

Examination showed no malposition or flexion of the uterus, and no laceration or erosion of its cervix. The organ was freely movable, with no lateral tenderness, the ovaries and tubes normal.

In seeking to account for this symptom it will be remembered that the pneumogastric nerve has an extremely wide distribution and connection. That beside going to the heart, and beside influencing the vaso-motor system through the medullary vaso-motor centre, it goes to the lungs and larynx, to the pharynx and œsophagus; that it is connected with the external auditory canal and with the meninges of the brain; that it goes to the stomach and intestines, to the liver and spleen, and, in short, to most of the abdominal viscera. Its connection with fibres of the sympathetic system in the abdomen enables it to receive impulses from organs, such as the uterus, with which direct connection has not yet been fully traced.

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* Manual of Midwif., p. 39.

† Obstetrics, p. 89.

While most cough is well known to be reflex from stimulus to pneumogastric fibres in lungs or larynx, the same result may follow a stimulus applied almost anywhere in the distribution of this nerve. The reader need only be reminded of the cough which comes from introducing a speculum into the external auditory canal, and of that which sometimes follows a disordered stomach; while the writer has now in mind a case of persistent cough which has resisted treatment for years by the best specialists, and which, in his judgment, is probably due to irritation of the meningeal branch of the pneumogastric nerve in the posterior cranial fossa.

Why the connection with the vomiting apparatus offers the easiest outgoing motor path from the medulla for the reflex impulses from the pregnant uterus it would be difficult to explain. The reflex sensory, trophic and vaso-motor paths in pregnancy seldom, if ever, lead to the stomach. In the case which has been given, the easiest path from the medulla led to the respiratory system, probably as the result of idiosyncrasy alone.

The practical point at once suggests itself that this cause may operate much more frequently than is usually admitted in aggravating a pre-existing cough, as in bronchitis or phthisis. In the weak or neurotic the resulting wear and tear and loss of sleep might be of considerable weight.

In the treatment of such a condition, as it is not desirable to continue the use of large doses of sedatives for any length of time, even if the cough is thus removed, a careful local treatment looking to the correction of displacements, erosions and other causes of reflex disturbance should be instituted; and in severe cases partial dilatation of the cervix, as has been so successfully practiced in the more common related disorder, vomiting of pregnancy, should not be neglected.

REMARKS ON THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE BRAIN.

Delivered at a Meeting of the Worcestershire and Herefordshire, Bath and Bristol and Gloucestershire Branches. By J. HUGHLINGS JACKSON, M.D., F. R. C. P., LL.D., F. R. S., Physician to the Hospital for Epilepsy and Paralysis, and Physician to the London Hospital.

It is a very great honor to be asked by the president of this important Branch of our great Medical Association to deliver an address. It is a particularly pleasant thing to deliver it at the request of my friend, Dr. Currie. The only other preliminary is to ask you to believe that, poor as the address may be, I have taken very great pains in the preparation of it.

For some years I have urged, and I hope to have opportunities of urging it again and again, that for the scientific study of nervous (and of all other) diseases we should investigate and classify on the principle of evolution, that we should consider them as reversals of evolution—in other words, as dissolutions, a term Spencer has employed for at least twenty years as the antithesis of evolution. But I have urged equally strongly that we should not follow this plan for direct practical purposes, but that we should for these purposes have empirical arrangements—arrangements of cases by type. (In no part of this address do I use the term scientific as implying superiority, nor do I ever use the term empirical with its conventional evil cannotations.) I have particular reasons for speaking of the two different classifications, the empirical being properly merely an arrangement.

I have been supposed to put forward the principle of evolution as of value in the classification of cases for practical purposes. I have been asked to go into an asylum and show how the cases of patients in it could be classified on that principle. But what I really said was, "The classification (on the principle of evolution), valuable as a means of extending our knowledge, would be useless, or of little use, for direct practical purposes" (Syphilitic Affections of the Nervous System, *Journal of Mental Science*, July, 1875). I wish to urge both methods, and can do so without inconsistency. A man, as a biologist, classifies plants one way in his botanical garden for scientific purposes, but he arranges them as everybody else does in his common garden, on the plan most convenient for practical purposes. Moxon said long ago (Introductory Address, Guy's Hospital, 1868–9): "You must know diseases, not as the zoölogist knows his species and his genera and his orders, by descriptions of comparative characters, but as the hunter knows his lions and tigers." I thoroughly agree with this in so far that we should try to know diseases as the hunter knows his lions and tigers, but I think that we should endeavor to know them also as the zoölogist knows his species, etc.

Whilst, as a physician, I study this and that particular disease empirically, as it approaches or reaches a clinical type I keep, as an evolutionist, a line of thought on the comparative study, on the homology of diseases. For example, I study miners' nystagmus, writers' cramp and dancers' cramp, and all other "professional or occupation spasms" separately and quite empirically; and yet, without in any way overlooking their vast differences, I also think of each of them as a member of one homologous series, as being a disease (having the same pathology) of a different part of the same system, of a different motor centre on the lowest level of evolution. (*Vide infra.*) Whilst I should, for medical care of patients, for their safety and their treatment, arrange cases of insanity in any good empirical way I could find, I should also endeavor to classify them as they are different degrees of dissolution of different regions of the highest level of evolution (highest cerebral centres), and should seek their homologues in diseases of the lower levels. Such a comparative study of diseases, that on the wide basis supplied to us by evolution, is of great indirect value for practical purposes. There is but one process of evolution, just as there is but one law of gravitation. Evolution, popularly supposed to apply only to biology, applies to astronomy, biology, psychology (or, rather, to anatomy and physiology as corresponding to psychology), and to sociology; or, to use Huxley's words, to the "whole physical cosmos." It would, then, be very marvelous if it did not apply to the whole nervous system and all its diseases. I believe that it simplifies our empirical studies, and gives harmony to what, without it, are crude heaps of facts. Let no one fear that the study of diseases as dissolutions will take him out of the practical field. Empirical work must come first; it is necessary for daily practice; it is forced on us. The scientific, the comparative study comes later. Before we can make rational generalizations we must have made empirical observations and generalizations. On leaving this part of my subject I give a quotation from Spencer (*Data of Ethics*, p. 61): "Every science begins by accumulating observations, and presently generalizes these empirically; but only when it reaches the stage at which its empirical generalizations are included in a rational generalization does it become developed science." I submit that on the principle of evolution we have the widest basis for rational generalizations of diseases. I submit that the same principles apply to the symptomatology of a case of paralysis of an external rectus, the simplest, and to insanity, the most complex of all nervous diseases; both are flaws, but each in a very different part of an evolutionary whole. I hope that in time we shall be able to apply the doctrine of evolution for direct practical purposes. I shall now and then try to show how our empirical studies may be made less empirical by availing ourselves of this doctrine.

I now take up the subject of the study of diseases by type, urging once more that, for practical purposes, we should know diseases "as the hunter knows his lions and tigers." An illustration is easily given, and I shall, I hope, be excused for giving one that does not come under the title of my address. When any one speaks of a case as one of tabes "complicated" with ophthalmoplegia externa or with glycosuria, he is tacitly asserting that there is a type, tabes, one with a complication. On the clinical nomenclature of the set of diseases of which tabes is one, and on the empirical arrangement it implies, I have some criticisms to make. Our knowledge of these diseases by "cases" is becoming so minute and extensive that our present nomenclature and our empirical arrangements by type almost break down. We have types, and then these types become so complicated that they almost cease to be typical. Beginning with locomotor ataxy, we have at length tabes with an almost universal symptomatology—pupillary affections of several kinds, optic atrophy, gastric crises, bladder troubles, glycosuria, lightning pains, etc. A case of tabes may, indeed, be looked on as a series of different diseases, provisionally for the thorough investigation of each, before we consider them together as *a* disease, owing to the same kind of morbid changes in different parts of the lowest level of evolution of one patient.

Nowadays ataxy is not considered to be a necessary symptom of tabes; when present, it is a subordinate although a very striking one;

it is a less serious trouble than tabetic amaurosis, and is far less serious to life than the bladder disorder in this disease. Frequently cases of what are called tabes are reported as being complicated with symptoms from other types, progressive muscular atrophy, lateral sclerosis, etc. There is what Gowers well calls "ataxic paraplegia." We have, under the name of Friedreich's disease, a series of cases which at one extreme merges into tabes, and at the other into disseminated sclerosis.* These remarks show that the set of diseases spoken of are studied by type; one hears such expressions as "a typical case of tabes," this expression implying that there are also atypical cases (subtypical and supertypical). They show, too, that the types are arbitrary. Some may say that they dislike arbitrary divisions; but when we cannot distinguish, we must, for purposes of practice, divide; even in purest science arbitrary definitions are necessary; the mathematician's line has no breadth.

Fully believing that we must continue to study diseases by type, I wish some one with great authority would endeavor to define our types of the "progressive" diseases involving the spinal system more narrowly. I submit a plan which will, I hope, help us to a less empirical arrangement of some of these cases. Indeed, I think we may, aided by the doctrine of evolution, make a beginning of a rational generalization of them which will serve us in practical ways.

Were I writing a book on diseases of the nervous system, I should not have in it distinct sections on diseases of the spinal cord, medulla oblongata and pons Varolii, but one section including diseases of all these parts, the three morphological divisions being considered together as making up one anatomico-physiological unity. This unity I have called the lowest level of evolution of the central nervous system. It is, I think, pretty much what Marshall Hall named the true spinal system. It is a division of the nervous system complete in itself, in the sense that it represents all parts of the body. It is, to a large extent, complete by itself; the organic centres on this level are considerably, if not in some cases quite, independent of the higher levels.†

A case of bulbar paralysis "complicated" with ordinary progressive muscular atrophy, is, so to put it, half in and half out of a section on diseases of the spinal cord; it is well within one on diseases of the lowest level, and, considered as a disease of several motor centres of the same series of this level, is not "complicated." Whilst the anatomist speaks of segments (sensori-motor), we, as medical men, must speak of centres motory and sensory of this level, because, for example, disease may "attack" the motor elements alone of segments. Taking the spinal anterior horns and their higher homologues (nuclei of motor cranial nerves) as making up one homologous series of lowest motor centres all along the lowest level, we have an homologous series

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* See a valuable paper by Dr. Judson Bury, *Brain*, July, 1886.

† I refer here to the organic centres, as they do menial work, regulating digestion, circulation and respiration. These centres have a large share in emotional manifestations, and are, as so serving, quite subordinate to the highest centres.

—I do not say as yet a complete one—of progressive muscular atrophies from ophthalmoplegia externa downwards, each owing to atrophy of cells of different lowest motor centres.* (I have already spoken of another homologous series of "lowest level diseases," that is, different "professional spasms."

Some diseases are spoken of as diseases of the spinal cord when their symptomatology is of far wider origin. Tabes, often enough with a symptomatology from morbid pupillary affection to bladder trouble, is not a disease of the spinal cord only, but a disease of many different parts of the whole level. Taking many cases, we may say without much exaggeration that this clinical entity, tabes, has a universal symptomatology. Further, tabes, which pays no respect to the morphological divisions, in most cases "keeps to" the level and to nerves given off by its centres; although here again we have sometimes "complications" with symptoms of general paralysis (disease of the highest level).

The plan I suggest is different from a mere grouping of the three morphological divisions. Thus the deep part of the lateral column *in the cord* is just as much *out of the level* (extrinsic upwards) as are the motor nerve-fibres from the anterior horns going on to the anterior roots (extrinsic downwards); so that lateral sclerosis—I speak of it as far as it is limited to the deep part of the lateral column—whilst it is a "disease of the cord," is not a disease of the lowest level of all, but of part of a strand of fibres connecting some lowest motor centres and all middle motor centres (so-called "motor region" of the cortex). In the same way of speaking, hemiplegia from lesion of the internal capsule, since it is also owing to (a different kind of) lesion of the pyramidal tract, is not strictly a cerebral disease, but is one of a continuation of the very same strand, morbidly affected in lateral sclerosis, of a plexus inter-connecting all lowest and all middle motor centres. I will speak of such fibres, although integral parts of the cord, medulla and pons, as being—if you will pardon the awkwardness of the expression—"extrinsic fibres of the level" (not really of it, but connected with it). In the same way fibres *in the cord*, during their long course from the great vaso-motor centre and from pupillary centres, are *out of the level* (extrinsic downwards) as certainly as their continuations after their emergence from the cord are. The really intrinsic fibres, those properly of the level itself, are fibres inter-connecting its several centres, across and up and down.

Again, if we limit attention to one of the three morphological divisions we cannot work our symptomatology of some of the diseases of that one division. I give an example: complete transverse lesion of the lower cervical cord, say on fracture dislocation of the spine. This lesion pays no respect whatever to evolutionary distinctions; the symptoms are many and various, and careful analysis is required, even disregarding evolution. There is cutting across of intrinsic elements of the level, and of elements of it which are extrinsic upwards and downwards. Some symptoms, owing to lesion of the intrinsic elements of the level, demand for their explanation a very particular consideration of activities of healthy parts above the cord, as well as of the part of the cord below the lesion; we have to consider the very local lesion of the cord as a flaw in one small part of the whole level. Let us speak only of the symptom constipation. We must first consider normal defæcation, or rather the normal state of the nervous arrangements on the lowest level for that operation. No doubt the higher levels have influence on these nervous arrangements of the lowest level as in preventing or delaying defæcation, and also in assisting in the operation, partly by putting in action abdominal and other accessory muscles; this implies that in the transverse lesion spoken of there is cutting across of (inhibitory and motor) fibres, which are extrinsic upwards. I here, as my object is only to illustrate one thing, confine attention to elements of nervous arrangements concerned in defæcation which are undoubtedly intrinsic parts of the level, and to the visceral parts of the nervous arrangements for that operation. These elements, in three morphological divisions, are all within the level, and are found in three regions of it (sacral, dorsal, and bulbar). We shall neglect Stilling's (sacral nucleus) which is for the hind gut (and for other parts we are not concerned with) in this illustration. There is a motor (visceromotor) centre in the medulla, and a controlling (viscero-inhibitory) centre in the dorsal region of the cord. From the former pass polioenteric fibres by way of the vagus, to make the intestines contract, and from the latter leucenteric fibres to keep them dilated; both sets of fibres are fibres of the level extrinsic downwards—both in their short course before their emergence from the medulla and cord and afterwards. But we must suppose that there are intrinsic fibres, fibres in and belonging to the level itself, connecting the two centres, bulbar and dorsal; by these in quiescence there is amicable antagonism between the bulbar and dorsal centres. When the operation of defæcation is started by some afferent impulse, the medulla centre, we shall suppose, inhibits the inhibitory splanchnic centre by the intrinsic fibres, and acts positively by the extrinsic fibres (in the vagus) on the intestine. Thus there is, positively, forcing, and there is, negatively, yielding. The constipation is, in the case instanced, owing to cutting across of the intrinsic fibres between the bulbar and dorsal centres; there is no longer amicable antagonism; each centre "pursues its private ends;" the inhibitory dorsal centre over-acts and over-antagonizes the motor bulbar centre.

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* As "lowest centre" is used as a proper name to signify evolutionary rank in contrast to centres on the middle and highest levels of evolution, it is correct to speak of more than one lowest centre.

The plan suggested—that of studying diseases of the cord and of the other morphological divisions as diseases of the level—cannot be carried out fully, because our anatomico-physiological knowledge of its elements is not as yet complete. But I hope that besides looking on a case of tabes, to take that example, as a type often "complicated," we shall soon regard it as a disease of the level, and that we shall have a rational formula of cases of the class of diseases to which tabes belongs and a nomenclature corresponding—a nomenclature analogous to that in chemistry, one telling us in the name of this or that patient's disease, the several particular elements of the lowest level morbidly affected, and declaring what other symytoms in this or that case are owing to lesion of extrinsic elements of, so to say, the level. I hope we shall have names somewhat after the style of "amyotrophic lateral sclerosis;" I say somewhat, because this name is partly after a symptom, or peripheral condition at least, and partly after a central lesion. In this disease one of the lesions, atrophy of cells of anterior horns, is of intrinsic elements of the level, some of its motor centres; the sclerosis of fibres of the lateral cortex is of part of a plexus between some lowest and the middle motor centres. After this somewhat of a digression I return to studies by type.

The next illustration is by a cerebral disease. Epilepsy (I mean epilepsy proper) is nowadays considered by most medical men to be a disease of the brain. We should have two types of this morbid affection. I find, however, that many medical men have but one type—loss of consciousness with severe universal convulsion. But the great thing in the diagnosis of epilepsy is not the "quantity" of the symptomatology, but paroxysmalness. A sudden transitory loss of consciousness with very little physical manifestation, often enough suffices for the diagnosis of epilepsy. It may be said that there are "all degrees"* of epileptic seizures, from slightest to severest. My experience is that a patient, long subject to *les petits maux* only, has a very severe, perhaps a severest, fit some one unfortunate day, and afterwards is subject to them, and often to the slight fits too, without having fits of "all degrees." The two things, *les petits maux* and *les grands maux*, differ in compound degree; they deserve to be considered separately as types for diagnostic purposes. That epileptic fits are often very slight and transient is so very old a story that I will speak of one very important variety of *le petit mal* to which very little attention has been paid. I must premise that loss of consciousness is not essential for the diagnosis of a slight fit of epilepsy; there may be defect of consciousness only.

There are cases of very slight epileptic fits in which occurs what is commonly called an "intellectual aura;" I call it "dreamy state." One variety of it is the feeling of "reminiscence" which many healthy people have. Now, if with the "dreamy state" occurring suddenly, there be a "warning" of smell or of taste or a sensation referred to the epigastric region, there is certainly epilepsy; there is always defect of consciousness, but loss of consciousness does not always follow. These seizures are often so slight, so odd, so short, so little incapacitating, and are sometimes, strange to say, positively agreeable, that the patient may disregard them until a severe fit comes to tell him what they mean. Medical men, until the diagnosis is made by a severe, and, so to say, an ordinary fit, may not recognize the epileptic nature of these quasi-trifling seizures, and may put them down to hysteria, indigestion, malaria, etc. The diagnosis of slight fits of epilepsy from accounts given by patients or their friends is often so difficult that we cannot afford to neglect quasi-trifling symptoms. In some of the cases of the sub-variety of epilepsy just remarked on, there is very seldom a warning of taste, but there are not rarely movements and noise of chewing, or tasting, or smacking the lips, or there may be spitting, implying, I submit, discharge of central gustatory elements. If, with defect of consciousness and the "dreamy state," there are such movements, I should conclude confidently for epilepsy.

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* The law of continuity—that things increase and decrease by insensible gradations—is, I think, in many medical matters applied without due thought. I never nowadays use the expression "all degrees" in relation to any cases of nervous disease. Slight fits of epilepsy, *les petits maux*, do not pass into severe fits, *les grands maux*, by there occurring fits of all or even of many, intermediate degrees between slightest and most severe. There are not only simple degrees, but compound degrees of increase and decrease in cases of disease of the nervous system. Increasing evolution is not a process of increase by insensible gradations; there are, as the expression "levels of evolution" implies, occasional "stoppages," which are "re-beginnings." The division into *le petit mal* and *le grand mal*, although I speak of these two degrees in the text as types, is, in my opinion, a natural division. I mean that it is one answering to the evolutionary constitution of the nervous system. *Le petit mal* passes suddenly into *le grand mal* when the discharge beginning in some part of the highest centres has become strong enough to overcome the resistance of lower (middle) centres.

I submit that such groupings of symptoms are of value as types. As yet there have been but two necropses in the cases of patients who have been subject to such fits; both cases are very complicated. The only one published, so far as I know, is recorded by Dr. James Anderson (*Brain*, October, 1886) (taste warning and "dreamy state"); another observed by myself and Dr. Beevor (warning of smell and "dreamy state,") has not yet been published; in each, tumor in the temporo-sphenoidal lobe was found. It is by cases like these two, cases of gross local organic disease, and by the investigations of Ferrier, that we shall ultimately be able to consider all "varieties" of epilepsy (using that name just now generically), not only as each is a type, but on a rational basis also, as each points to a "discharging lesion" of this or that part of the cerebral cortex. In most cases of the variety of epilepsy I have been remarking on, there is no evidence of gross local organic disease.

For many diseases each man will have to make his own types; everybody does so consciously or unconsciously, but I submit that we should make them consciously and definitely. Taking for next illustration migrane: I make three types, or rather consider cases of it as they are, (1) typical, (2) sub-typical, and (3) super-typical. (1) A typical case is one in which there is "visual projection," the well-known zigzag or "fortification" outline is most common, with, in most cases, a hemianopic area; then comes headache, most often frontal and one-sided, and lastly vomiting. (2) There are sub-typical cases, visual projections and nothing more, or headache unpreceded by visual projections, and not followed by vomiting. (3) There are super-typical cases deserving very particular consideration. In these there is in addition, so to say, to the other symptoms, numbness of one side of the body, and when the numbness is of the right side there may be also considerable aphasia. To the inexperienced these cases look far more serious than they are; they do not point to any gross local disease. Some of the symptoms of migraine, the headache among others, are, I think, after-effects of the discharge producing the paroxysm.

Here once more I stay to show that the arbitrary study of cases by type does not prevent us from making at other times and for other purposes rational generalizations. Using for the moment the term epilepsy generically I should class migraine, epilepsy proper, and epileptiform seizures as epilepsies, on the basis that in each there is a "discharging lesion" of some part of the cerebral cortex. Their differences are sufficiently accounted for by the different "seats" of those lesions. Observe the opinion expressed is that there is a persistent, although varying, hyper-physiological (crude physiological) lesion in each of the three. But in so classifying them for scientific purposes, I no more overlook their vast differences, no more undervalue the study by type, than I confound whales, bats, and hedgehogs when I say that all these animals are mammals. One reason for the scientific classification is that I have seen cases intermediate in type between migraine epileptiform seizures and epilepsy proper ("missing links.") I have seen a case indistinguishable from what I have called super-typical migraine, except for the fact that the ailment followed a blow on the head leaving a depression on the left side of the skull; the limb-symptoms were right-sided, and there was partial aphasia (both, of course, temporary). I treat all three epilepsies (still using the word generically to cover epilepsy, epileptiform seizures, and migraine) on the same general principles, of which more further on; also treating each patient according to the peculiarities of his case; dyspepsia is often an exciting cause of a paroxysm of migraine; there is of course special tratment for the relief of the headache in cases of migraine, antipyrin for one remedy.

It may be said that classification of the three different diseases on the basis mentioned is purely hypothetical. It is not so far as epileptiform seizures are concerned, and is now not for the two cases of the variety of epilepsy proper completed by necropsy I recently mentioned. I should, however, be sorry to have it implied from this remark that I repudiate hypotheses in scientific research. For the sake of argument, let it be granted that the whole classification is altogether hypothetical. The use of hypotheses is the method of science. To suppose that we can make discoveries by the Baconian method is a delusion. No discovery, we are told by good authority, has been made on that method. An hypothesis, otherwise a supposition, is not a conclusion,* it is only the starting point for methodical observation and experiment, the endeavor being not only to prove it, but to disprove it. I have not concluded that migraine, epileptiform seizures, and epilepsy proper are alike, in that in each there is a "discharging lesion" of some part, in each of a different part, of the cerebral cortex. Such an hypothesis is the beginning of hard work; its only use is to give order to that work. Huxley writes (article "Science" in the *Reign of Queen Victoria*, vol, ii): "As a matter of fact, Bacon's 'via' has proved hopelessly impracticable, while the 'anticipation of Nature' by the invention of hypothesis based on incomplete inductions, which he specially condemns, has proved itself to be a most efficient, indeed an indispensable, instrument of research." He writes too (*op. cit.*, p. 336–7). "It is a favorite popular delusion that the scientific inquirer is under a sort of moral obligation to abstain from going beyond that generalization of observed facts which is absurdly called 'Baconian' induction. But anyone who is practically acquainted with scientific work is aware that those who refuse to go beyond fact rarely get as far as fact; and anyone who has studied the history of science knows that almost every great step therein has been made by the 'anticipation of Nature,' that is, by the invention of hypotheses, which, though verifiable, often had very little foundation to start with; and, not infrequently, in spite of a long career of usefulness, turned out to be wholly erroneous in the long run." I imagine that the saying of a great man will occur to most of us "hypotheses non fingo." It may be well to mention Newton's "Corpuscular Theory of Light," which, Huxley says, "was of much temporary use in optics, though nobody now believes in it." The plain fact is that no one dislikes hypotheses; some of those who think they do have no clear notion of what the term means, and are *supposing* something all day long. In what is to come I shall use the term hypothesis, and I submit correctly, for some current explanations, which are not commonly considered to be hypothetical at all. What all of us dislike is an explanation of difficult problems, the complex. We may easily err in taking the subjective confusion produced in us to be in the objective thing contemplated, which is really only very complex.

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* Those who make the mistake that a supposition is a conclusion forget what they were told at school, that Newton put aside his theory of gravitation for many years because it was discrepant with certain observations, was, it temporarily seemed, disproved.

To come back to the study of diseases by type. I fear I should in some ways carry this method to what may seem an extravagant extent, as in chorea. I confess I make an arbitrary division of these cases—have two types, "slight" and "severe," although there may be no scientific distinction.* The slight type: A girl who has slow, infrequent movements, of comparatively limited range, of the face and limbs, especially if they are almost limited to one side, who could get about if permitted, whose appetite is normal, and who sleeps well, recovers soon in most cases by good food, tonics (quinine and arsenic), aperients and rest—would very likely recover without medicines. The other type—"severe" chorea— is practically a very different thing. A girl with incessant, frequent,† and very wide movements of all parts, who has to be kept from bruising herself by various expedients (packing hands and joints in cotton-wool, etc.), is to be looked on as requiring very different treatment. The tendency is to death. There are few cases of nervous diseases in which we can do so much good. We give food in large quantities—solid, if possible. Brandy is a most excellent remedy; in very severe cases we may give twelve ounces in twenty-four hours. If ordinary means of feeding are impossible, we should put the patient under ether and feed by a tube. Our main object is to keep the patient alive. But I think brandy, and, in severe cases, etherization, are of curative value—indirectly, at any rate. There is certainly very often rapid improvement after their administration. I never think of "specifics" in this type of chorea. Beyond aperients, the only drug I give is chloral, and that only when food has been taken. I never give opium.

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* The status epilepticus or epileptiformis, practically an acute disease, requires a very different kind of treatment from that of epilepsy or epileptiform seizures in the ordinary course of cases. For the status, food and some stimulant; chloral is the best drug; and, if the fits are very frequent, etherization will help.

† The pairs of words, "slow and quick," "infrequent and frequent," are used after the manner of their use clinically for alterations of the pulse.

It would save a great deal of trouble if we had an orderly series of types of cases in which vertigo is a prominent symptom. I make four: (1) ocular; (2) auditory; (3) epileptic; and (4) gastric. This is the order of their simplicity, and therefore the order in which they should be studied; it is not the order of their seriousness. (1) anyone can learn very much that is of great value in the diagnosis of other more difficult cases of vertigo in five minutes, if he will first properly investigate a case of recent paralysis of ocular muscles. It may seem that recognition of the cause of the vertigo is easy by the strabismus, most often so, no doubt; but in cases of paralysis of the superior oblique, the strabismus is far from being obtrusive, and the real cause of vertigo in such cases may be easily overlooked, and often is. (The vertigo is not owing to double vision.) In these cases we find vertigo in its simplest form. The treatment of ocular vertigo is, of course, that of the lesion causing the local paralysis, and this, excluding tabes, is mostly caused by syphilis. I have never been able to verify the hypothesis that this paralysis is of rheumatic or gouty pathology. (2) The next simplest vertigo is auditory. Very often indeed ear disease causes—or, rather, is a factor in the causation of—paroxysms in which, with many other symptoms, there is vertigo, "swimming of external objects," etc. The diagnosis is very easy if we find ear disease in patients who have attacks of giddiness, with reeling, sickness, intense depression, and often perspiration. It is very important to recognize the causation, otherwise one might think there was serious brain disease, or mistake the case for mere stomach vertigo. Digestive derangement and other causes of lowered general health are often excitants of the paroxysm, and this guides us in an important part of our treatment. We try to cure the ear disease, but often we cannot. Quinine in large doses is praised by Charcot. The best remedies are lessened work and bracing air. (3) Epileptic vertigo is often used as a name for a slight fit of epilepsy, even when there is no vertigo at all, no apparent movement of external objects, and no feeling of the patient turning. I use it as a name for vertigo at the onset of epileptic attacks; sometimes it is for a time almost the whole of a seizure, and is afterwards the "warning." This is the most serious form of vertigo; the treatment is for epilepsy. (4) I have slender respect for the hypothesis that a stomach disorder sometimes produces a paroxysm of vertigo. If there be such a thing as stomach vertigo, it is the most difficult of the four kinds of vertigo to explain. The question is: "How does a dyspeptic attack produce a sudden attack of vertigo?" Hence I put it last on the list for particular study. When a man has a paroxysm in which objects seem to move to one side (when the vertigo is, as Gowers puts it, "definite"), I certainly do not believe that any kind of digestive disorder is the real cause of the paroxysm; the hypothesis is then too heavy for practical purposes. No doubt most cases of so-called "stomach vertigo" are cases of aural vertigo, the attacks being sometimes brought on by dyspepsia. As to treatment, one of course treats dyspepsia in whatever association one finds it. I now start from a new line of thought—not, however, altogether leaving the subject of study of diseases by type.

I have just been urging that we should take up for particular study cases in the order of their simplicity. Were I to write a book I should follow this plan; for the ambitious aim of the work would be to help people in practice to examine for themselves in scientific ways for practical ends. We cannot learn for ourselves if we begin with complex problems; if we do we shall run the risk of making vague, and often verbal, explanations. Cases of gross organic brain diseases (such, I mean, as tumors, masses, "lumps,") are among the simplest of all cerebral diseases. Simple and serious are not, as I have recently been urging and trying to illustrate, convertible terms. Cases of gross organic disease of the brain are far simpler for diagnosis, prognosis, and even, in some ways, for treatment than are cases of what are called the "neuroses" (chorea, epilepsy proper, neuralgia, etc.). Of the former we know a great deal and speculate too little; of the pathology of the latter we know nothing certain and speculate much. Very confident opinions—really hypotheses—are expressed as to the causation and pathology, in particular cases, of the "neuroses" when we are diffident in the diagnosis of intra-cranial tumor in very many cases. But before we speak confidently of the causation and pathology of hysteria, epilepsy, chorea, neuralgia—cases without a known morbid anatomy—we should discipline ourselves by a study of cases in which necropsy is likely to confront us. A *post-mortem* examination tells us candidly what our powers of clinical investigation are worth in the case examined. I am speaking of the anatomy, physiology and pathology of the neuroses (*vide infra*). I have small faith that any great good will come of the studies of these diseases by those who have not previously disciplined themselves by careful work on what I may be permitted to call the coarser diseases of the nervous system, and who have not before that a good knowledge of recent physiology.

It may be objected that the study of cases of gross organic intracranial disease is dismally fruitless, as we can do very little for the sufferers from it. I believe that we may do very much, even when the tumor is non-syphilitic. For many of the symptoms of tumor are really symptoms of an encephalitis, or certainly of some secondary change provoked by the tumor in its character as a "foreign body"; such symptoms are headache, optic neuritis (this is, strictly speaking, a visible pathological condition), and "fits" of different types. If we can do nothing for the tumor, we may do something for the secondary changes it induces; certainly we may rid the patient of optic neuritis when the tumor which some way caused it remains; and if the patient is to die, he will live to the end of his shortened life more happily seeing than if blind. Excluding optic neuritis in cases of Bright's disease, in meningitis, and some other obviously exceptional cases, I treat cases of optic neuritis very actively by iodides and mercurials. I do not say that optic neuritis would not pass off without such treatment, but I dare not omit it. Patients have got rid of optic neuritis after removal of brain tumors (Horsley) when no drugs have been given.

There is another thing to be said of treatment in some cases of gross organic brain disease. I believe that some patients die suddenly of intense pain; I am certain that some die after sudden increase of pain, and that, too, in cases where *post-mortem* examination discovers no recent changes. In some cases I apply leeches to the temples as the quickest way of relieving the sudden increases of pain. I do not hesitate to give morphine by hypodermic injection. Not only do we thus diminish misery, but we may, I think, sometimes save life. For more continuous pain (the patient's ordinary pain, I may call it) I should try antipyrin. If the patient dies suddenly, as I repeat he not rarely does, his death may be erroneously ascribed to the remedies we use for allaying his pain.

Then in some cases of cerebral tumor the surgeon comes to our aid. To diagnose a brain tumor, and then, if we can, to localize it in certain regions, is a very important thing. Nowadays a medical man is not thought to be wasting his time when he is anxiously trying to get to know the starting-point of an epileptiform seizure in the case of a patient who has double optic neuritis—whether the initial spasmodic movement is of the thumb or great toe. Nor is he now thought to be talking nonsense when he insists that with marked double optic neuritis there may be good sight, rather he is supposed to be repeating an old story. I shall speak only of the surgical case I know most about. Mr. Victor Horsley removed a scrofulous tumor from the right cerebral hemisphere of a patient of mine who was subject to fits, beginning in his left thumb (see Horsley on Brain Surgery, *British Medical Journal*, vol. ii., 1886, p. 670). The patient is still under my care, suffering now from partial paraplegia, consequent on angular spinal curvature; his left hand is still partially paralyzed, but for many months he has had no fit.

There are other reasons for the careful and particular study of these comparatively simple, but yet very serious, morbid affections. Unless we are in the habit of using the opthalmoscope by routine, when patients, unaccustomed to them, begin to have severe headaches, especially if the pain is in an unusual seat, side of head or occiput, we shall often overlook the real nature of cases of serious brain disease altogether, or we shall miss treating their earliest stages, the stages most amenable to treatment, if treatment is to do any good; we shall misinterpret them as hysterical, as being cases of indigestion, etc. It is thoroughly well known now that marked optic neuritis (the best evidence of an intra-cranial tumor) is very often indeed unattended by defect of sight. I have been told that I say too much of this, that nobody now denies the dictum. But I contend that it is not sufficiently widely known, and say that the assertion is still received by many medical men with great incredulity. If sight be good in optic neuritis, that important sign does not exist for those who do not use the opthalmoscope, and thus from the headache and vomiting alone the erroneous diagnosis of stomach and liver derangement is easy. (There are cases of intra-cranial tumor without optic neuritis, or for months or years without it. There may be no headache, there may indeed be scarcely any symptoms at all where there is a large cerebral tumor.)

Here I give a caution. Do not take the strange, miserable feelings, "weight," "tension," etc., at the top of the head, and "dragging" at the back of the head and "down the spine," for the pain from gross local intra-cranial disease, such as tumor; the patient complains bitterly of what he calls "headache," although he may qualify the word by saying that "it is not an ordinary headache." These "pains" at the top and back of the head are very common in cases of nervous exhaustion, and do not signify local gross organic diseases within the cranium.

There is another reason for the particular study of cases of local, gross, organic disease. Patients who have intra-cranial tumor not rarely die suddenly or rapidly, when on our last visit they seem to be in good general health; they die most unexpectedly. Sometimes, as I have said, when speaking of treatment, this occurs during sudden increase of pain. Occasionally in the case of a patient who all along has only had headache, optic neuritis, and vomiting, there ensues hemiplegia or apoplexy, or both; when so, the likelihood is hæmorrhage from a vascular tumor. Sometimes, and this Fagge pointed out, death occurs by respiratory paralysis. If anyone thinks that because there is intra-cranial tumor the ailment must have a slow course, and that the patient or his doctor will be sure to have a definite warning of the approach of death, he is mistaken. I have known a patient, taken seriously ill one morning at his work, die in a few hours of respiratory paralysis, when the tumor was a syphilitic one, of one occipital lobe. A great many times have I seen a speedy ending to the life of patients who, having double optic neuritis, headache, and vomiting, seemed to be, judging only from their general condition, not even seriously ill. Yet this triad of symptoms, if we can exclude chronic Bright's disease, some cases of which are indistinguishable from cases of cerebral tumor, except by the ascertainment of the existence of that morbid kidney affection, is certain evidence of some serious intra-cranial disease, and is the best evidence of intra-cranial tumor. The assertion that a patient who has double optic neuritis and good sight, only headache now and then, and who for much of her time seems perfectly well, is to be considered as being dangerously ill, at first glance seems absurd. I said "her time," for I am now thinking of the case of a young lady who, shortly before I saw her, had been to a dance, remaining to about 4 o'clock in the morning, and who died rapidly not many days after her visit.—*British Medical Journal.*

(*To be Continued.*)

ABSTRACTS.

CROONIAN LECTURES ON ANTIPYRETICS. Delivered at the Royal College of Physicians. By Donald MacAlister, M.A., M.D., F.R.C.P., Fellow and Lecturer of St. John's College, Cambridge.

LECTURE I.

The lecturer began by explaining that the lectures he proposed to deliver were complementary to the Gulstonian Lectures of last year. In these the treatment of fever had been intentionally passed over. But treatment could not long be absent from the thoughts of a physician, however theoretical the bent of his mind; and when very unexpectedly he was offered another opportunity of addressing the College as Croonian Lecturer, he had proposed, and the President and Censors had approved the choice, to deal with the practical bearing of the theory of fever. The regulations under the new scheme prescribed "lectures on one or more subjects in anatomy, physiology and pathology, with a view to the prevention, control and cure of diseases." Though the subject of the lectures was for brevity given as "Antipyretics," he did not propose to limit himself to the drugs so called or their pharmacology. He would discuss rather—(1) the light thrown on the nature of fever by the means employed successfully for its treatment, and (2) the lessons in the treatment of fever which flow from a right understanding of its nature.

The outlines of the theory presented last year were recalled. The nervous mechanisms of heat-loss or thermolysis, of heat-production or thermogenesis, of heat-balance or thermotaxis, constituted the thermal nervous system, and these mechanisms were in ascending order of complexity and of evolution. Fever was a dissolution beginning with thermotaxis and extending to the inhibitory mechanism of thermogenesis. Hyperpyrexia was a still deeper dissolution, and extended to thermolysis. Much still remained to render complete our knowledge of the anatomy and physiology of these several mechanisms, but contributions were constantly being made, and obscurities cleared away. As he was anxious to strengthen in their minds the conviction of the objective reality of the thermal system, he would first call attention to certain recently acquired anatomical and physiological facts which had not yet received sufficient notice.

First as to the physiology of thermolysis. The Harveian Orator, Dr. Stone, had pressed on the College the importance of physical investigations in medicine, and regretted that they were at present less regarded than researches in histology or bacteriology. A series of valuable experiments, involving high skill in physics and in mathematics, and therefore perhaps overlooked, had been made on the radiating power of the skin by Dr. Masje under Dr. Eichhorst of Zurich. Probably 60 per cent. of the heat leaving the body did so by radiation. But the laws of this loss had not been inquired into, or had been assumed to be governed by physical analogies. At the Zurich Hospital, by the aid of an instrument of great delicacy and precision, on the principle of Langley's bolometer, the true laws of skin-radiation had been worked out and proved to be strikingly suggestive. A hot body radiates less as its temperature falls. This was the physical law, but not the physiological. A part of the skin suddenly uncovered naturally became cooler, but its radiation increased steadily as the temperature fell, until a certain limit was reached. Radiation was more intense in men than in women, in boys than in girls, in young persons than in old, in the vigorously healthy than in the feeble or convalescent. In other words, radiation was more active as the processes of nutrition and metabolism were more active. Reasons were given for believing that the radiating power of the skin, which could be shown to depend on its physical and chemical constitution, was subject to nervous control; and thus what was apparently the most purely physical of all the thermolytic processes was not outside the domain of the thermal nervous system. In discussing the value of an antipyretic method, in explaining its mode of action, we could not in future ignore the questions—What changes does it call forth in the texture of the skin? How does it modify the great thermolytic function of radiation?

Another subject connected with thermolysis deserved some mention—namely, the connection of peripheral temperatures with central. The lecturer, in common with many others, had been perplexed and baffled by the apparent lawlessness of surface temperatures as taken by any of the ordinary methods. So doubtful were any results based on them that experts regarded with suspicion all observations but their own. Recent inquiries also carried out at Zurich under Dr. Eichhorst showed that the difficulty lay chiefly in an erroneous method of procedure. When peripheral temperatures are taken continuously for some hours (eight or ten), instead of some minutes, it appears that in health as well as in disease the curves obtained usually consist of two distinct portions. The first corresponds to a stage of an hour or so, in which the temperature is highly irregular and different from the central temperature. This is the *ambiguous* stage. The second is marked by much greater uniformity and by nearness to the central temperature. Like the latter, it tends to be constant and stable. This is the *continuous* stage, and it is so regular, so normal, that we are safe in drawing conclusions from its changes. Observers had hitherto seldom got beyond the ambiguous stage, and hence the irregularity and confusion already alluded to. The effects of antipyretic methods on the continuous stage of the peripheral temperature would form an interesting and trustworthy study.

Next, the anatomy and physiology of the thermogenic system had received valuable contributions. New points in the thermogenic tract had been made out (he would not call them *centres*) by Ott and others in America, using the methods and working under the inspiration of Dr. Wood. In the rabbit four points in the cerebral axis were now known, the stimulation of which gave rise to increased heat-production, and not simply rise of temperature. Two were at the anterior and median borders of the corpus striatum, one between that body and the thalamus, and a fourth at the anterior end of the thalamus. Dr. Hale White had, in part, verified the localization as regards the anterior striate centre, and had made out that unilateral irritation gave rise to bilateral pyrexia. It appeared that in the rabbit the lateral differentiation of the thermal tracts, like that of the motor, was still incomplete.

The question as to whether these points were on excitor or inhibitory tracts was next discussed, and the experiments of Girard in Geneva, and Baginsky and Lehmann in Berlin, were adduced as apparently bearing on the question in opposite senses. Reasons were given for thinking that the so-called "striate heat centre" might be a passing place, if not a meeting place, for both anabolic and catabolic fibres. Ott, the other day, had announced certain new discoveries which pointed to cortical areas being concerned in heat regulation. An area at the upper end of the Sylvian fissure appeared to control the striate region. Thus, when thermogenesis was induced by puncture of the striate "centre," and an abiding pyrexia resulted, stimulation of the cortical area lowered the temperature and diminished the thermogenesis. The bearing of such observations on the localization and nature of the thermotaxic mechanism was alluded to and the probability of further advance estimated. In Dr. Gaskell's pregnant hint—namely, that his explanation of inhibition as anabolism is applicable to nerve centres as well as to peripheral organs—the lecturer saw the promise of much new light on the mechanism of thermotaxis.

LECTURE II.

In the first lecture the anatomy and physiology of the thermal nervous system were dealt with, in order, among other things, to show that in the minds of those who are most actively engaged in experimental inquiry the conviction of its existence is a guiding principle, and no longer a plausible speculation only. Without a sufficient belief in the definite character of the apparatus of thermal nerves and centres, some of what was about to follow would appear more theoretical than it really was.

In the second lecture, partly by way of relief, certain questions would be discussed connected with what might be termed the teleological pathology of pyrexia. It was admitted that fever is a sign of disorder, of disturbance, of a physiological function or functions. But in all ages some had maintained, and the proposition was now being revived, that this disorder is not wholly or not in itself injurious. It was regarded as a wholesome reaction against a *materies morbi*, a manifestation of the *vis medicatrix*. Cohnheim had asked: "What is the deeper meaning, the true significance, underlying the febrile process? Does the organism gain any advantage from the rise of temperature which characterizes pyrexia?" He had answered that it might plausibly be maintained that in febrile heat we should recognize a sanative power, by which the body consumed and destroyed a virus it could not directly eliminate. From a practical point of view it might become more urgent to appraise the *dangers* which menace the body in fever, and before a conclusion was reached it would be necessary to distinguish with certainty and precision between the parts played by the specific febrile disease and the disorder of the body heat which accompanied it. "But," added Cohnheim, "when that time comes, I anticipate that physicians will more and more regard fever; not, indeed, as a condition free from danger, but, as on the whole, a wise provision of nature." Hilton Fagge was inclined to take a like view, but had given few reasons other than those based on a possible explanation of the phenomena of relapsing fever and ague. It would be well to examine more closely the grounds of this view: That fever serves a salutory purpose.

After the long prevalence, especially on the continent, of the idea that the dangers of fever are primarily due to the high temperature, and that to reduce the latter is the chief end of treatment, the reaction was remarkable. It was due, to some extent, to disappointment with the effects of vigorous antipyretic treatment—external and internal—on the course of some of the specific fevers. Expectations have been exaggerated because based on a one-sided theory, and they had not been fulfilled. Another factor in the reaction was the growth of the germ theory. The thesis of those who extended their bacteriological speculations to fever, appeared to be that the specific fevers are due to the intrusion into the body of certain specific living cells or microphytes; that these engage in a struggle for subsistence with the tissue cells of the body; that pyrexia is a reaction brought about (by natural selection) to favor the latter in the struggle, and to hamper or disable the former; and that the result is, or should be, that the microphytes are overcome and consumed, and thus, through fever, the body is restored to health.

It was true that some of the best known microphytes were checked in their growth or multiplication by high temperatures. Gaffky showed that typhoid bacilli formed spores with difficulty at 107.5° F.; Koch, that tubercle bacilli ceased to grow after being kept for some weeks at a like temperature. The bacillus anthracis continues to grow, but loses in virulence if kept for some weeks at 108.5° or for some days at 109.5.° Surely it could not be held that such facts were really relevant. A body temperature of from 107° to 109°, kept up for days or weeks, was too powerful a remedy. The body would be consumed before its parasite.

A less direct explanation was suggested in a recent lecture by von Ziemssen, namely, that the pyrexia so alters the constitution of the tissues that the microphytes no longer find in them a suitable soil, and so perish. But against this was the fact that the exanthemata tended strongly to run a definite course, whether the fever was high or low. The gravity of the infection stood in no proportion to the less or greater intensity of the pyrexia. Rather was it the case that the highest fevers were the most enduring—the slighter fevers the briefest.

The cases cited by Hilton Fagge, by Murri, by Finkler, and others, in which the febrile paroxysm seemed to have a destructive effect on the living virus of relapsing and of intermittent fevers were then discussed, and were shown to admit of a simpler explanation—one applicable to all the specific diseases attributed to specific micro-parasites. These parasites seem, like other living creatures, to have a definite life-period, in which they grow, multiply, exert their special action, and decay. This period is independent of pyrexia, independent of antipyretic treatment, and independent of external conditions. The definite duration of virulence in typhus, measles, small-pox, etc., and the sudden extinction of its vitality at the crisis in croupous pneumonia, bespoke a normal biological property in the virus, a law of its life which forbade it to endure longer than a certain time. It had shrewdly been asked by Goldscheider: If pyrexial temperatures are not in themselves dangerous, but merely serve to purify the body without injuring it, why are they in ordinary cases confined within such narrow limits? If fever be a process with a purpose, would it not be better to nip the growth of the microphyte in the bud by a prompt and intense rise of temperature at the beginning of the illness?

In concluding this part of the argument, the lecturer asked a question of those who relied on the all-embracing doctrine of evolution, and argued that so universal a symptom as fever following on bacterial invasion could only in the course of ages be developed if it conveyed some advantage in the struggle for existence. Were not the bacterial plants also engaged in a like struggle? Had they not, too, in the course of ages acquired properties which helped them to grow and multiply? Might not the fever they induced be salutary—to the bacteria? He laid no stress on such an argument, but adduced it to show that the reasoning of the germ theorists on fever was two-edged, and could be turned against themselves. A general fallacy underlay many speculations of this kind. In speaking of fever generally, of its treatment, of antipyretics and antipyresis, the febrile process had been too much regarded as a single entity. There were many morbid processes having fever as a concomitant; some one or other of these was studied and the laws arrived at for its causation, pathology, and treatment were too hastily generalized so as to apply to other and widely different morbid processes. Even if we were to admit it possible that in relapsing fever and in ague the pyrexial attack conveyed some benefit, it would be rash to infer at once that all pyrexia is beneficial and apply the law to the case of acute rheumatism or septicæmia. In fact, fever was at best a symptom whose significance was very different in different cases. Parallel illustrations from the phenomena of cough and of pain were given. The only sound therapeutic method was to study the particular circumstances in which the symptom arose. Yet there were two extreme schools: One insisting that all pyrexia is dangerous, and that high temperature must be lowered at any cost; the other, whose headquarters were at Vienna, maintaining that, as fever is salutary, it should not be meddled with—the school of pure expectancy. The postulate of the latter had been dealt with; it was worth while to examine the postulate of the former—that high temperature is purely mischievous and the efficient cause of all the dangers that threaten a fever patient's life. Dr. Cayley, in a previous course of Croonian Lectures (1880), had dealt with this question in a masterly way, and his conclusions were quoted. He thought it decisively proved that the view in question was only in part correct, and that many of the morbid phenomena accompanying fever occurred independently of it. The lecturer would not go over the same ground, but adduced new considerations bearing out and strengthening Dr. Cayley's conclusion. In the first place, he referred to his Gulstonian Lectures in illustration of the point that "high temperature" was an ambiguous term, and might or might not connote pyrexia. The temperature might be raised in various ways—some of them harmless. In thermal ataxia, in disordered thermolysis without other change, the temperature might rise and remain high. But there was ground for the conviction that such non-pyrexial elevation of temperature was not in itself a danger. Take, for example, the cases of aseptic operation or injury recorded by Volkmann and other surgeons, in which temperatures as high as 105° were accompanied by no loss of appetite, no distress, no symptom such as could be characterized as febrile.

Many of the current statements as to the baneful effects on tissue and function of mere high temperature were based on experiments in which animals were subjected to forcible over-heating. These experiments were reviewed, and, in the light of fresh researches by Naunyn, Welch, of Baltimore, and others, shown to be capable of other interpretations. When proper precautions as to food, water, and air were taken, animals could be kept with body temperatures varying about 107° for days or weeks, and that without grave injury or even discomfort. Danger did not arise until a higher point was reached, and then the result showed that thermal mechanism being overstrained, that dissolution of it which we called hyperexia had set in. The phenomena of relapsing fever were taken as bearing in the same direction. In this disease, the subjects of which were commonly weak and ill-nourished, temperatures of 107°, lasting for five or six days, were frequent, and were perfectly well borne. The small mortality of the disease corroborated this.

The conclusion thus reached was (1) that high temperature in itself was not in general a salutary condition in the infective diseases; and (2) that it was not in itself the efficient and sufficient cause of all the disturbances commonly called febrile.

LECTURE III.

In the second lecture it had been shown that, when carefully examined, the experimental evidence had failed to prove the proposition that the high temperature of febrile diseases is the efficient cause of the morbid phenomena that accompany it. Both in man and in animals the temperature might be considerably raised, and for considerable periods of time, without permanent danger to the organs or their functions. In discussions on the subject, however, it appeared that the phrase "danger of high temperature" was used in two different senses, which were sometimes confused, and this confusion led to misunderstanding of the issue and ambiguity in the conclusions arrived at. By some the phrase was understood to mean the mischief caused by mere heating up of the body and its tissues. This was the sense in which it was taken by such an authority as Liebermeister when he said: "A patient whose temperature keeps persistently at 104° or higher will certainly die from this cause alone, either after a few days or after a somewhat longer interval, according as his power of resistance is less or greater." It might, on the other hand, imply that high temperature was an index or sign of the gravity of the disease from which the patient was suffering. In typhoid or pneumonia, for example, we might say, as a matter of experience, that danger threatens when the temperature rises to 106°, meaning that such a temperature usually indicates that the disease is taking a dangerous course. So long as a certain rough parallelism between temperature and the gravity of the disease was all that was postulated there was little to object to in this statement, but it must not be pushed too far, as cases constantly occurred in which the parallelism was not observed. Instances were cited where, with the gravest signs of danger in typhoid, the temperature was little, if at all, above the normal, and where improvement took place when the temperature rose nearer to the ordinary level. Wunderlich, who might be called the law-giver of the subject, insisted on this point, and had formulated statements which had been forgotten by some who thought their work was based on his principles. To illustrate some of these the lecturer gave examples from Dr. Warfvinge's experience at Stockholm, of which accounts had appeared in the "Transactions of the International Medical Congress of 1884" and elsewhere. From these it appeared that in typhus, in typhoid, in pneumonia and other specific fevers it was not the height of the temperature *per se* that made a case dangerous, for high maxima occurred frequently in mild cases and low maxima in fatal cases. Among the fatal cases of typhoid there were more of the lowest maximal temperatures and fewer of the highest than among the severe cases that recovered. In pneumonia, while very high temperatures were, on the whole, rare, there was no appreciable difference in the maxima reached respectively by favorable cases that recovered and by unfavorable cases that were fatal. In the pneumonia of children especially it was noticeable that, though the temperatures ran unusually high, the prognosis was very favorable. So likewise, on comparing measles with scarlatina, the maxima in the former were higher than in the latter, and the duration of the fever was much the same, yet the latter was, on many accounts, a graver fever than the former.

Such considerations forced us to consider the other factor in these diseases—viz., the infection; it was obvious that if the grave morbid phenomena could not be set down to the pyrexial temperature, we must attribute them in large measure to the action of the specific virus or poison. Experiments were cited to prove that some, at least, of the textural changes which were thought to be most undoubtedly induced by heat were capable of being produced by infective causes both in animals and in men. The granular or fatty change in the muscles, and more particularly in the heart, was especially referred to, and even the cerebral disturbances and the disorders of the secretions could not be excluded.

Turning, then, to the question of treatment, it was pointed out that, as the chief pathogenic factor in the specific fevers was apparently the specific virus, our first object of search must be for a specific remedy capable of destroying or counteracting the virus. Quinine in malarial fever, and salicylic acid and its congeners in rheumatic fever, were of this nature, and their claim to be antipyretics rested largely on their specific action. In other fevers such specifics remained still to be found, though some steps in this direction had been made; and though there was much promise of greater progress in the future, we were at present obliged to be content with less radical and more symptomatic remedies. The ideal febrifuge would allay fever by restoring to healthy function the disordered thermotaxic mechanisms thrown out of gear, like other mechanisms, by the action of the morbid poison. Such a true febrifuge had not yet been found. The next best thing was to discover a mode of treatment which should act vicariously for the thermotaxic mechanism, compensating for its lost control over the thermal functions. A drug might conceivably act by checking thermogenesis simply, or by greatly increasing the inadequate thermolysis of fever. The former might be called an active antipyretic; the latter was properly a refrigerant.

To give a concrete turn to the discussion, it would be well to consider in some detail the physiological properties of a particular drug, as far as they were known, and inquire to which of these classes it might best be referred. Antipyrin had attracted so much notice, and had been so largely used and so closely investigated, that it would serve well as an example. Some of the effects of antipyrin on the thermolytic processes were then dealt with. It was shown by the data of an actual experiment that a full dose of antipyrin had a marked effect in increasing the rate of radiation from the unexposed skin, as measured by Masje with Eichhorst's radiometer. For example, in a case of febrile phthisis, while the temperature fell in two hours from 101° to 97.7° under antipyrin, the radiation increased rapidly, and was twice as great at the end of the second hour as just before taking the drug. The rate of radiation from the cheek, which, as mentioned in the first lecture, was pretty nearly constant in normal circumstances, increased in the same time from 57 units to 133 units. Antipyrin so modified the physical and chemical properties of the skin as to produce this protracted and steadily rising loss of heat by the single channel of radiation. Nothing but radiant heat was measured, and so nothing would be inferred as to the total heat-discharge.

Next as to the effect on peripheral temperature as determined by Schwarz. In fever the peripheral temperatures underwent from time to time extremely marked oscillations. If at the time antypyrin was given the peripheral temperature was not very different from the central temperature, no marked differential effect was produced in the former by the drug. After some oscillations, both central and peripheral temperatures began to sink, and at not dissimilar rates. But if the peripheral temperature happened to be low (under 95° F. or so) a remarkable effect was produced. A sudden ascent of its curve was almost invariably observed until it approached or overshot the central curve, and then after some oscillations the two again began to fall together.

On thermogenesis also the effect of antipyrin had been much investigated, both by directly physical and by chemical or indirect methods. Dr. Girard of Geneva, whose investigations on the thermogenic function of the corpus striatum had been mentioned, had induced pyrexia by stimulating that body, and found that a subsequent dose of antipyrin was able to reduce the temperature and to keep it down for a time. He had also first given antipyrin and then stimulated the thermogenic region, and found that the temperature still rose, but to a less extent. These results, though suggestive and interesting, were not conclusive as to the effect of the drug on heat-production, for in the first place the rise of temperature obtained was never very great, and in the second the experiments were thermometric only. The calorimeter must be used to determine whether the heat actually produced in fever was dismissed by antipyrin. Dr. Wood and Dr. Hare had turned their attention to this point, and though their results were at present somewhat incomplete, and labored under certain outstanding difficulties of interpretation, they appeared to show that heat-production *was* lessened by the drug. The fever they had tested was that induced by injecting a "pyrogenic" agent, especially an albumose derived from certain specimens of pepsin. Dr. Hare had tested antifebrin on animals suffering from this artificial fever with a similar result. It should be added that in the experiments in which they obtained a reduction in the rate of heat-production they also observed a diminution (though a smaller one) in the rate of heat-loss. Dr. Wood had, moreover, assured himself that the result was apparently unaccompanied by any measurable effect on the circulation, at least when the antipyrin was given in therapeutic doses.

Lastly, two out of many inquiries into the effect of the drug on metabolism, as evidenced by the excretions, were considered. One by Robin, communicated to the French Academy, was vitiated by faults of method, inasmuch as it did not appear that any precautions were taken to secure nitrogenous equilibrium in the patients observed. Still the results, taken for what they were worth, were suggestive, Robin found, by examination of the urine of healthy and diseased persons before and after taking antipyrin, that the drug in health always diminished the urine, the total urinary solids the urea, and the chlorides, and that it increased the uric acid. In acute febrile diseases these effects were less marked than in health, and varied somewhat with the particular disease. The conclusion he derived from his chemical examination was that antipyrin acted directly on the nervous system, lowering its excitability, and diminishing the catabolic and oxidative changes in the tissues.

A far more careful investigation had been carried out in 1886 by Riess of Berlin on typhoid patients. He chose patients in the height of the fever, and their diet and other circumstances being so regulated as to make the successive days comparable, he measured the entire excretion of nitrogen during nine consecutive days. During three days the fever was left untreated, for the next three the temperature was kept down by antipyrin, and for the last three it was allowed again to rise. The result was, briefly, that the nitrogen excreted during the days under antipyrin, when the fever was suppressed, was less by 15 to 30 per cent. than during the days before and after, when the fever was allowed free course.

Lecture IV.

In the cases of typhoid fever investigated with so much care by Riess, the effect of antipyrin had been to diminish the total excretion of nitrogen from 15 to 30 per cent. Müller reported a case in which the urinary nitrogen was diminished by 28 per cent. on days when the pyrexia was suppressed by antipyrin, as compared with alternating days when it was allowed to rise unchecked. Engel, again, found the diminution, in similar circumstances, to be from 16 to 25 per cent. The agreement in these and other similar results appeared to establish the fact that in typhoid at least antipyrin exercised a constant influence in diminishing the metabolism of the nitrogenous tissues. It might be argued that the effect was not primary, but simply followed the lowering of febrile temperature. Umbach and others had accordingly made careful estimations of the effect of the drug on persons in health. By adopting a uniform diet for many days together, Umbach brought about in himself a condition of nitrogenous equilibrium, and then took full doses of antipyrin on certain days. One series of observations extended over fourteen days, another over six days. The results were accordant, and showed that on the antipyrin days the nitrogen excreted was less by some 10 per cent. than on the normal days. This was due to diminished production of nitrogenous waste, not to retention, for on the days following the use of the drug the excretion gained its ordinary level and no more. There was thus good ground for the belief that in fever the lowering of temperature was a secondary phenomenon, the lowering of nitrogenous excretion a primary one.

The effect of antipyrin on perspiration was next considered. Too much importance had probably been attributed to the production of sweating as a thermolytic process in discussions on fever and its treatment. Profuse sweating was compatible with high temperature, as was seen in rheumatic and septicæmic fevers. The absence of sweating did not necessarily result in pyrexia from heat retention. The high temperature of fever was not reduced appreciably when the injection of pilocarpine gave rise to abundant sweating; sometimes it actually rose. Though in many cases antipyrin was followed by sweating, this did not sufficiently explain its cooling effect. Sometimes the sweating did not appear; it could be artificially suppressed by the simultaneous administration of atropine, yet the temperature fell notwithstanding. In certain cases of phthisis with colliquative sweating the lecturer had seen antipyrin lower the hectic temperature and at the same time check the sweats, to the great comfort of the patients. Moreover, if the temperature of a fever patient be taken continuously, or at intervals of ten or fifteen minutes, it is occasionally observed that the fall of temperature begins before the perspiration appears.

Turning to the effect of the drug on the circulation, the lecturer recalled Dr. Wood's observation, that its thermal effect was independent of any measurable effect on the circulation. Demme, of Berne, one of the first inquirers into the physiological action of antipyrin, stated that when very large doses were administered to animals —doses very much greater in proportion than any used in therapeutics—the first effect was to raise the blood pressure, the second to lower it. Ultimately the heart showed signs of paralysis, and then another dose of antipyrin failed to raise the pressure again. On the isolated heart antipyrin, circulating with the blood in full doses, produced the effect of relaxation or paralysis; but if pure blood, or blood containing caffeine, were sent through it, the heart recovered perfectly. The net effect of the first rise of pressure and the subsequent fall might be apparently zero, as Wood had found.

The effect of therapeutic doses on man was then described. The effect on the pulse of fever patients was, in general, to slow the rate as the temperature fell. But this did not always happen. Sometimes the pulse kept at its febrile rate in spite of the lowering of temperature. The experience of Reihlen at Nürnberg, gathered from 90 cases, and that of Welt in Zürich from 120, was not quite in accord in this matter, and the inference was that though the heart was generally slowed by the drug, this result depended on various other factors and was not invariable. In some cases the lecturer had found that the pulse became slower before the temperature began to fall, arguing that an influence was at work other than the mere cooling of the blood. As regards the quality of the pulse, it was almost always found that the arterial tension rose somewhat after a dose of antipyrin; sphygmographic traces confirmed the impression conveyed to the finger. But there was no certain relation between the thermal effect produced and the strengthening of the pulse, and sometimes the pulse was unmistakably softer, even though the other symptoms were improved. A good deal, no doubt, depended on the initial condition of contraction in which the radial artery stood when the dose was taken. As was well known, this condition was in fever somewhat irregular.

Summing up the results so far enumerated, it appeared that antipyrin increased skin radiation, diminished the dfffference between peripheral and central temperature, lowered the temperature as a whole, diminished thermogenesis, diminished the production of nitrogenous waste and therefore nitrogenous metabolism, and frequently, but not always, increased perspiration, while it generally slowed the heart and slightly increased the tension of the radial artery. Before attempting to seek a physiological explanation of these various actions, it would be well to consider some other effects of antipyrin less obviously related to the thermal economy.

It had been found that large doses of antipyrin, subcutaneously injected, gave rise to clonic convulsions, succeeded by tonic spasm or rigidity, and by paralysis. But if the sciatic and crural nerves of one limb were first divided, the muscles of that limb remained free from convulsions. Smaller doses injected into one limb appeared to produce a diminution of sensibility in that limb, and sometimes also in the opposite one—at least, the response to ordinary irritations and stimuli was feeble or absent. Sée, who describes this result, speaks of it as if the effect were merely anæsthetic or analgesic. If the sciatic of the injected side be stimulated electrically, the contractions of the other limb are very slow and limited; they seem to be performed with difficulty. This he attributes to the enfeeblement of the sensory nerves of one side, and to diminished conductivity of the reflex arc through the cord to the other side.

Chouppe last year communicated to the Société de Biologie some results concerning a peculiar antagonism between antipyrin and strychnine which were instructive. Strychnine, as everybody knew, appeared to increase greatly the excitability of the sensory nerves and the cord, without affecting the muscles directly. A slight stimulus was enough to throw the muscles into general convulsions, and it was said that the conductivity of the reflex arcs was augmented. If antipyrin were first injected into a vein, the subsequent injection of strychnine failed to produce its characteristic effects. A dose of antipyrin large enough to induce clonic spasms, however, did not prevent the strychnine convulsions from appearing, though they did not prove fatal. If strychnine were first injected and produced its poisonous effects, antipyrin diminished these, and sometimes the clonic spasms of antipyrin displaced the strychnine convulsions.

The striking effect of antipyrin in abolishing pain of a neuralgic character was alluded to, and the lecturer gave his experience of its marked anodyne influence in such affections as the "lightning pains" of tabes, cancer, otalgia, rheumatoid arthritis, supra-orbital neuralgia, etc. Hypodermic injections of antipyrin were with many physicians taking the place of morphine for the simple allaying of pain. In France, where the name "antipyrin" was patented, it was proposed to compete with the German production of the drug by manufacturing it under the name of "analgesin." Another condition in which it had an excellent effect—some called it a specific action—was megrim. In his own person he had found that nothing acted so promptly or so certainly in averting or assuaging the paroxysm.

It was now time to attempt to give some general explanation of these several effects. It was not enough to say with Demme that antipyrin in large doses was a general protoplasmic poison. That was true of many alkaloids and other substances when administered in sufficiently large amount. We must try to discriminate the special action of therapeutic doses. The remarkable progression in the effects on the muscles, as already described, suggested to his mind a more promising explanation. After small doses there was an appearance of apparently diminished excitability; stimulation induced only slow or difficult contraction of the muscle. Larger doses seemed to induce increased excitability, and spontaneous contraction or clonic spasms followed, then rigidity and paralysis. He thought the first decrease of excitability was due, not to a numbing action, but to stimulation of the inhibitory muscular nerves or tracts in the cord. The existence of such nerves, from reasons explained in the Gulstonian Lectures, Dr. Gaskell's work justified us in accepting. The muscles contracted with difficulty because of the intense stimulation of the inhibitory fibres. Intense stimulation was followed by exhaustion and paresis, and the motor nerves then acted without check. This accounted for the peculiar spasms, and when by them the motor nerves were in turn exhausted, rigidity and paralysis were the result. The mutual influence exerted by antipyrin and strychnine bore out this explanation. The convulsions of strychnine he believed to be due to paralysis, or, at least, paresis of the inhibitory nerves. That view accorded better with the facts than any other. The appearance of increased excitability was the expression of the unchecked activity of the motor nerves and tracts in the cord. Antipyrin stimulated the inhibitory mechanism, and so at first antagonized strychnine. But, if the dose of antipyrin were excessive, the inhibitory influence might become exhausted or paretic, and then the signs of strychnine poisoning made their appearance.

Passing from the nerves to the brain, the diminution of thermogenesis and of nitrogenous catabolism, healthy as well as morbid, by antipyrin, was attributed to a like stimulation of the inhibitory centres connected with the thermal system. Paresis of these centres was one of the conditions of pyrexia, and the action of antipyrin was to restore their lost tone and power. Even the thermolytic influence on the peripheral temperature could be explained in the same way. In fever the surface vessels were irregularly contracted, irregularly with regard both to time and to locality. Leyden and Fraenkel had long ago pointed out that, so far as the cutaneous vessels were concerned, this was probably due not so much to spasm of the vaso-constrictors as to paresis of the vaso-dilators. These oppositely acting nerves Dr. Gaskell had included in his great generalization, and they were now to be regarded as catabolic and anabolic respectively. The anabolic or vaso-inhibitory nerves actively dilated the calibre of the vessels. Now, when in a fevered limb the peripheral temperature was low, it had been shown that antipyrin produced a prompt and intense increase of its temperature. This was attributed to a stimulation of the vaso-inhibitory centre, the analogue of the vagus centre; the vessels of the limb were thereby promptly dilated, and the slight increase of blood pressure already noted, sufficed to drive the hot blood through the patent channels. The slowing of the heart under the drug, at least when it preceded any marked fall of temperature, he could not account for entirely as the result of simple cooling, but believed it might depend on a like stimulation of the inhibitory nerve of the heart, namely, the vagus.

The account of the phenomena of megrim given by Dr. Lauder Brunton was quoted, and the analogy pointed out between the irregular contraction of the temporal artery and its branches and that just alluded to as explaining the vagaries of the peripheral temperature in fever. The conditions which gave rise to megrim were more allied to exhaustion than to irritation, and his own experience suggested that paresis of the vaso-inhibitory mechanism of the cephalic, and especially the cerebral, vessels played a large part in its causation. If this were so, the study of the properties of antipyrin might almost have enabled us to predict its efficacy in relieving the affection; for its primary and characteristic physiological action seemed to be—to stimulate to greater activity, to more regular function, the inhibitory mechanisms generally, whether muscular or vascular, and, in particular, those seated in the brain.

[We are compelled for want of space to defer Lecture V. until our next issue.]

ORIGINAL CORRESPONDENCE.

15 Rue Caumartin,
Paris, August 20, 1888.

To the Editors of GAILLARD'S MEDICAL JOURNAL,

Dear Sirs:—The Emperor of the Germans has at length been gathered to his fathers, and it is earnestly to be hoped that the controversy between his medical attendants may be buried with him.

For more than a year the German and English physicians who have had this distinguished patient in charge have disputed together, and with an acerbity unprecedented in the history of medicine. Their bickerings have, in fact, attracted the attention of the civilized world, and their confréres of every nationality have become partisans either of one side or of the other.

As a natural result of these unfortunate and untimely dissensions, a stigma has been cast upon the medical profession which curtails its usefulness and detracts from its prestige, to an extent that its every member must appreciate and deplore.

It affords some satisfaction, however, to realize that all the parties concerned are not equally responsible for the injury which has resulted to their calling, and that to the assailants, and to the assailed, justice demands the attribution of far different measures of culpability, since the "right of self defense" is an available plea under all circumstances and for every individual.

The facts of the case are simply these: Sir Morell Mackenzie, a distinguished English surgeon and gentleman, of unblemished character, and high social position, while visiting Germany as the guest and medical attendant of its afflicted ruler, has been treated with great indignity and injustice by a clique of Berlin physicians, and some portion of the Press as well. In fact, during the entire period of his residence in Berlin, he was the object of a systematic persecution, which had for its object his ignominious expulsion, in order that the Emperor might be attended by native physicians exclusively. Such treatment of a stranger and a confrére would have been unwarranted even had it been extended to some blatant quack or ambitious tyro, seeking notoriety for himself without regard to the welfare of the patient; but it became an outrage when its recipient was such a man as Dr. Mackenzie —one who had only recently received the honor of knighthood for his services to science and humanity; whose works are the text-books of modern medicine; who was present as the honored guest, and the specially chosen physician of the suffering Emperor, and whom the entire medical profession acknowledges as pre-eminently a master in the specialty to which he has consecrated his life.

This violation alike of the laws of hospitality, of the principles of justice and of the etiquette of the profession, very naturally excited the indignation of Dr. Mackenzie, and elicited the sympathy of his friends; and, hence, originated the rival factions whose fierce polemics at the bedside of the dying monarch startled the world, embroiled the physicians of every nationality, and brought obloquy and reproach upon our honored profession.

Throughout this trying ordeal Dr. Mackenzie's bearing was most admirable. Even courteous to his rivals, dignified to superiors, devoted to his patient, and meeting every emergency of the case with unfailing tact and consummate skill, he fully sustained his reputation as a gentleman, a humanitarian and a physician, of the highest type. Fully realizing the magnitude of the trust confided to him, he did his duty bravely and well, winning the respect of every disinterested spectator of the scenes in which he played so conspicuous a rôle, securing the lasting gratitude of the devoted wife who has displayed so much of true womanhood amid all the vicissitudes of her husband's protracted illness, and inspiring the august patient himself with the deepest affection and the most absolute confidence. It can but prove a source of perpetual pride and pleasure to him to remember that one of the last acts of the Emperor's life was to leave on record a tribute to his kindness, fidelity and skill, and to know that by a concensus of opinion which approximates to unanimity, his confréres throughout the world fully endorse this imperial estimate of his services, and believe that, but for him, Frederick the III. would not have lived to occupy the throne of Germany—that his judicious treatment of the case unquestionably prolonged the life of the patient for many months.

In striking contrast with the conduct of some of his compatriots, Virchow—the Ajax Telemon of German physicians—turned a deaf ear alike to the suggestions of jealousy and the promptings of selfishness. Uninfluenced by prejudice, and unbiased by passion, he illustrated the true catholicity of medicine, by refusing to participate in the crusade against his English confrére, and by promptly uniting with him in an effort to determine the true nature of the disease with which the Emperor was afflicted. In thus making professional obligation the incentive of action, and proving himself superior to the contracted egotism of so many of his colleagues, Virchow showed himself a true scientist and a great physician, and reflected honor upon himself, his calling and his country. Let us hope that the example which he has set in this regard may prove both a warning and a lesson to the profession of the world.

What a curse to medicine and to society is professional jealousy! It is at once the most despicable and tyranical of human passions, debasing, while it enslaves the soul in which it has been conceived, and sacrificing upon the altar of a remorseless and insatiable selfishness every sentiment which elevates and adorns humanity. Transformed into an incarnation of egotism, and regarding every rival as an enemy devoid of all rights and beyond the pale of courtesy, the physician who is dominated by jealousy, lives but to advance his own interests, regardless of the means employed, and to carry on perpetually a merciless warfare against those who chance to be in his way. Such a man is invariably a coward, and his attacks, though deadly, are made in secret—slander, intrigue, inuendo *et id genus omne*, being the weapons wherewith he seeks to murder the reputations of his competitors—while the malice in his heart is often masked by a smile upon his face.

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Dr. Perron, of Bordeaux, suggests cocaine inhalations as a remedy for the cough of phthisis and bronchitis. He states that, under the influence of a two per cent. solution of this drug, pulverized, by means of an ordinary vaporizer, attacks of coughing, however severe or inveterate, may be promptly arrested, and a condition of comfortable quiesence induced. Besides, the mucous membrane of the air passages are so modified by the anæsthetic action of cocaine that both inflammation and morbid secretion are notably diminished and positive benefit is secured. One advantage presents itself in connection with this mode of treatment, which should not be too lightly considered: the necessity for the administration of opiates is superseded, and the digestive organs are consequently preserved intact—an important consideration in the treatment of pulmonary diseases. For many months I have used cocaine in certain cases of inflammation of the throat and of bronchial catarrh—especially when accompanied by spasmodic cough—utilizing an ordinary spray producer, and employing a three per cent. solution for this purpose. Having found it an admirable remedy in such cases, I am prepared to accept Dr. Perron's statements in regard to its efficacy in phthisis and bronchitis proper. Graeffuer has reported very favorable results from inhalations of cocaine in pertussis. He employs an ordinary steam vaporizer, and the following mixture:

Cocaine, - - - - - -	0 gr. 10
Chlorate of Potash - - - - -	aa 0 gr. 50
Water of Bitter Almonds, - - - -	
Distilled water, - - - - - -	45 grammes

The substitution of bromide of soda for chlorate of potash in this formula would materially increase its seductive and antispasmodic properties. It should always be borne in mind, however, that, to many persons, cocaine is a poison when absorbed even in the smallest quantity.

Dr. Besnier, in *les Conferances de St. Louis*, gives a very interesting study of eczemas of the face of children. According to him there are three distinct varieties of this affection:

1st. That which connects itself with lymphatic temperaments, and is especially characterized by the sensation of itching. It develops itself about the orifices, as of the nose, mouth and ears, and produces large adenoid masses, which readily become the seat of tuberculous deposits. The eruption is covered with moisture, and is often accompanied by phlyctenoid keratitis of an intractable character. As this variety of eczema is closely allied to lymphatism, and to scrofulous tuberculosis, its appearance may always be regarded as a serious circumstance, demanding prompt and energetic measures. The proper treatment for this variety of eczema consists in the internal administration of cod-liver oil, in conjunction with iodine or iodide of iron, and the local application of warm water with the addition of a few drops of the liquor of Van Suieten, or calomel ointment, or red precipitate ointment, of the strength of five grammes of red precipitate to fifty grammes of vaseline. It should be borne in mind that these applications are severe ones and require great care in their employment.

2d. That which appears in early infancy, and in connection with the process of dentition. It covers the entire face like a mask, and frequently appears upon the back of the hands and wrists. Itching is one of the principal features, as can be seen from the bloody scratches left by the nails, while inflammation of the gums and interior of the mouth, with profuse salivation, generally attend it. For the gums the following lotion answers best:

Cocaine, - - - -	0.10 centigrammes
Bromide of Potash, - -	1 gramme
Glycerine - - - -	10 grammes
Distilled water, - - -	10 grammes

Moisten the finger and rub the gums frequently with it.

3d. That which confines itself to that portion of the integument which contains sebacious and sudariferous glands. It is distinguished by an entire absence of pruritus, and by the presence of large and thick scabs upon the face, and by sebacious concretions, with desquamation and loss of hair upon the scalp, eyebrows and lids.

The proper treatment for this form of eczema consists in: 1st, the regulation of the diet, by the prohibition of such articles of food as are likely to produce digestive derangements; 2d, the careful removal of the diseased hairs: and 3d, the thorough bathing of the face with tepid milk and water, and the subsequent application to them of an ointment composed as follows;

Resorcine, - - - - -	1 gramme
Oxide of Zinc, - - - - -	10 grammes
Vaseline - - - - -	100 grammes

This ointment should be spread on soft linen or thin gutta percha cloth and applied as a mask to the face—so as to cover it entirely.

Dr. Gaucher's treatment of diphtheria, as given at a recent meeting of *Societé des Médicins des Hopitaux*, is based upon the hypothesis that the false membrane is the source of the system's infection, and that, consequently, the paramount indication is to remove it. This removal he effects by rubbing the patches forcibly with a mop saturated with a liquid which is prepared by dissolving 10 grammes of crystallized phenic acid, and 30 grammes of camphor in 10 grammes of alcohol, and then adding the same quantity of olive oil, and which, at the same time, cauterizes the denuded surfaces. This operation is repeated morning and evening, while the throat is irrigated every second hour with a solution of phenic acid, of the strength of $^1/_{100}$. According to him, the success which results from this plan of treatment is greater than that from any other, and he insists upon it as a *sine qua non* in the treatment of diphtheria.

In my own experience I have frequently been tempted to try the efficacy of removing the false membranes, and cauterizing the exposed surfaces, but never with any appreciable advantage; and I am sure that the sentiment of the profession favors non-interference in this regard, inasmuch as the throat lesions are regarded as the local manifestations of a morbific influence which has already permeated and poisoned the entire system. Besides, such a plan of treatment is utterly impossible with children, who are the principal victims of this fearful malady.

Mercury seems now to be the remedy in which a majority of physicians have the greatest confidence, although no allusion was made to it in the discussion which followed the expression of Dr. Gaucher's views on the occasion in question

Much has been written in regard to the treatment of hiccough, which is a very serious affair when it occurs, as is often the case, during the progress of some acute disease, such as typhoid fever or pneumonia. Dr. Ortille, of Lille, asserts that pilocarpine is the most prompt and efficient of remedies for this distressing symptom, and such is the opinion of many other reliable physicians. It is, however, far from being a specific and its employment is frequently contraindicated by the condition of the patient and the nature of the intercurrent malady, for no drug exerts a more depressing influence upon the heart than pilocarpine. A far safer, and an equally reliable remedy is caffeine, injected hypodermically. Recent experience shows that this agent has a very extended area of usefulness, and it is now recognized by the profession as being not only a powerful regulator of the nervous system, but a potent stimulator alike of the heart, the lungs and the kidneys. In all cases of collapse, syncope, embarrassment of respiration, failure of the heart's action, suppression of the urinary function or bulbar paralysis, in all of its complex manifestations, the subcutaneous infection of caffeine is practiced, and with a success which is phenomenal.

In the recent illness of the emperor of Brazil, when all other remedies had proved impotent to arouse him from the collapse, which, in conjunction with an intense dyspnœa, seemed the inevitable precursor of a speedy dissolution, injections of caffeine acted like a charm, spurring his flagging heart to action, exciting and equalizing his failing respiration, inspiring his wearied brain with fresh vitality, and snatching him from the very jaws of death. The formulæ which is usually employed in this regard is that first suggested by Dr. Huchard of this city, who may be regarded as the veritable discoverer of the therapeutical virtues of caffeine. It is as follows:

Caffeine, - - - - -	2 grammes
Benzoate of soda, - - -	3 grammes
Distilled water, - - - -	6 grammes

Of this solution a hypodermic syringeful is injected subcutaneously, and repeated *pro re nata.* In a recent case of hiccough, which occurred in a patient so greatly enfeebled by a combination of diseases as to contraindicate the employment of any depressing or even perturbating remedy, I succeeded in promptly arresting the paroxysms by the use of ordinary snuff—the act of sneezing seeming to antagonize the spasms upon which the phenomenon in question depends for its existence. I have also known of the prompt arrest of hiccough, when scientific remedies have failed, by the administration of a teaspoonful of ordinary brown sugar, dissolved in half a glass of water—an old woman's suggestion, but, nevertheless, a wise one, as the result established.

Dr. Cregney believes, according to the *Journal de Medecine de Paris*, that he has discovered a very effectual method of treating fissures of the anus, without an operation.

He secures a thorough evacuation of the rectum every morning, and then introduces between the lips of the fissure a few shreds of lint saturated with a solution of chloral of the strength of $^{1}{}_{50}$. The lint is left *in situ* until it is dislodged by the evacuation of the following morning, and is then replaced by other shreds similarly treated. These dressings are repeated daily until the fissure disappears—which is usually on the tenth day of the treatment. Considering the intensity of the pain produced by this lesion, and the fact that the operation for its relief, though usually successful, necessitates the employment of an anæsthetic, and frequently leaves the patient with a disabled sphincter, the advantage of the simple plan of treatment suggested by Dr. Cregney becomes manifest. It certainly should be tried in every case, inasmuch as it does not preclude a subsequent resort to operative measures if unsuccessful. I shall never forget an operation for an anal fissure which I once saw performed by the leading surgeon of Paris, Dr. Labbe, because of the peculiar manner in which he administered chloroform and lacerated the sphincter. Labbe's views in regard to the administration of chloroform are peculiar, and he gave them a practical illustration in this instance by compelling the patient to inhale it, undiluted by the slightest admixture of atmospheric air. As a result of this sudden and complete withdrawal of oxygen, and the substitution of a vapor having no vitalizing properties, but the opposite, a scene ensued which no language at my command can portray. With distended nostrils, staring eyes, heaving chest, and quivering frame, the patient sprang from her bed, looking the impersonation of human agony, and vainly seeking to free herself from the influence of the stiffling anæsthetic. So fierce were her struggles that it required the combined strength of four persons to restrain her, and I looked on appalled, expecting every moment some serious catastrophe, as it seemed hardly possible for a human organism to withstand so terrific a strain as that to which this poor woman's was subjected.

Fortunately, however, the anæsthetic soon did its work, and the patient sank back exhausted and powerless—as thoroughly insensible as if the vital spark had in reality been extinguished.

In referring to the case subsequently, the surgeon called my attention to the fact that, though the amount of chloroform consumed was comparatively insignificant, the intensity of the resulting anæsthesia was phenomenal, and insisted upon my accepting the circumstance as a vindication of the correctness of his views in regard to its proper mode of administration. I simply replied: "*Votre maniére d'agir dans cet égard est certainement hêroique, et, peut-être, efficace, mais, néanmoins, ce n'est pas la chirurgie*," though I might have added that chloroform was cheap and human life valuable, and that, in "saving at the spiggot" he came near "losing everything at the bung," so near it in fact that I would not repeat the experiment for Mr. Vanderbilt's wealth or even for Dr. Labbe's reputation. My experience in this connection has not changed to the extent of a hair's breadth my long-entertained conviction that it is unsafe to employ chloroform without freely diluting it with atmospheric air, and that it is too dangerous an agent, *per se*, even under the most favorable circumstances, to warrant the taking of the slightest liberty, or the neglect of any precaution, in connection with its administration.

Dr. Labbe's mode of dealing with the sphincter was equally unique, to say the least of it. Taking advantage of the profound insensibility of his patient, he forced his entire hand into the rectum, and then partially withdrawing it, he broke up completely the fibres of the muscle with his fingers—thus leaving the door of the intestine without lock, bolt, or bar. Through a special dispensation of Providence, and despite the dangers provoked, the patient made a good recovery, and the surgeon enjoys the reputation of having affected a wonderful cure. So runs the world away, and on such grounds are professional honors won and worn.

And still it would be presumptuous to question Labbe's ability as an operator. No man wields a knife with more elegance and precision, and to err at times is human, even when genius inspires the brain and guides the hand.

Another simple but effectual method of arresting hiccough is to direct the patient to close the external orifices of the ears by pressing firmly upon them with the fingers, and then to drink a glass of water by gulps.

Sometimes pressure over the track of the pneumogastric nerves in the neck will also succeed in arresting it.

There has recently been introduced here a melange of oxygen, chloroform and ether—the hint having been taken from Paul Bert's discovery of the increased efficacy of inhalations of nitrous oxide gas under atmospheric pressure—and, I believe it is destined to become the anæsthetic of the future.

Chabonnes, of Lyons, has recently revived the use of carbonic acid gas as a remedy for pulmonary disease in general, and for dyspnœa in particular, thus reviving the theory which Goin promulgated in 1832. It seems paradoxical that so toxic an agent as carbonic acid gas—one so deadly in its ordinary effects upon the human system—should come to be recognized as a remedy for the cure of disease, and yet, experience teaches that by modifying the circumstances of its inhalation, this besom of destruction is transformed into a minister of relief and comfort—is made an instrument for the relief of pain and the prolongation of life.

When respired in limited quantity, and duly diluted with oxygen, it reduces the irritability of the pneumogastric nerve, cleanses and cicatrizes the diseased surface with which it comes in contact and increases the respiratory capacity of the lungs, as the spirometer demonstrates. In order to employ it properly, one of Limousin's bags is filled with a mixture of carbonic acid gas and oxygen—one-third of the former and two-thirds of the latter—and the patient is made to inhale it from two to five minutes, three times daily.

Under the influence of this treatment, palpitations diminish, cough abates, oppression is relieved, and the patient improves generally. In dyspnœa dependent upon cardiac disease and uræmia, the beneficial effects of carbonic acid gas, though appreciable, are less satisfactory; while in that of Cheyne-Stokes' respiration it is positively pernicious, for the reason that the blood is already surcharged with it.

In view of the benefits resulting from inhalations of this agent the question naturally arises as to the feasibility of substituting them for the rectal injections which have recently become so popular in the treatment of pulmonary disease.

The first-named method of administration is far the more convenient, and, *ceteris paribus*, it is more deserving a place among the recognized remedies of modern medicines.

I am very truly and respectfully yours, etc.,

EDWARD WARREN BEY, M.D., C.M., LL.D.

NEW BOOKS AND PAMPHLETS.

PTOMAINES AND LEUCOMAINES; OR, THE PUTREFACTIVE AND PHYSIOLOGICAL ALKALOIDS. By Victor C. Vaughan, Ph.D., M.D., Professor of Hygiene and Physiological Chemistry in the University of Michigan, and Director of the Hygienic Laboratory; and Frederick G. Navy, M.S., Instructor of Hygiene and Physiological Chemistry in the University of Michigan. 8vo, pp. 316. Philadelphia: Lea Brothers & Co. 1888.

A most timely and welcome publication, to both the toxicologist and pathologist. Probably no subject of scientific investigation in the domain of medicine has excited more interest within the last ten years, or has been fraught with greater practical importance than the discovery of the ptomaines. And the researches of Dr. Vaughan and his colleague, as recorded in the present volume, have added no little to our information on this interesting subject.

After a brief, though lucid, historical sketch of ptomaines, in Chapter I. the authors give us in the succeeding chapter an excellent description of "foods containing poisonous ptomaines;" in which it is satisfactorily shown that the violent and often fatal results following the use of certain kinds of food, and characterized by narcotico-irritant symptoms, are really due to poisonous ptomaines, generated by specific bacterial agency on different kinds of complex organic material in a state of decomposition. This is illustrated in the familiar instances of poisoning from eating certain varieties of mussels, putrid flesh, sausages, canned meats and vegetables, cheese, milk and ice-cream, etc. From each of the foregoing articles, distinct poisonous ptomaines have been extracted by the labors of different investigators; and one of the most interesting and important—*tyrotoxicon*—was discovered by Dr. Vaughan himself in 1884, as existing in poisonous cheese; and also in 1886, in poisonous milk and ice-cream.

These discoveries shed a flood of light on many hitherto unexplained and obscure cases of poisoning resulting from partaking of apparently innocent articles of food above-mentioned.

Chapter III. discusses a most interesting subject, "The Relation of Ptomaines to Disease." It seems now pretty clearly established that the *mode* by which the specific bacilli of infectious diseases produce these morbific effects on the system, is not by a *direct* action of these micro-organisms on the blood, nor by producing embolisms, nor by their consuming the proteids of the body, as was at first suggested, but by the generation of one or more poisonous ptomaines, which latter by absorption into the blood affect the great nerve-centres, the heart and lungs, and occasion the characteristic symptoms of the disorder. Each specific pathogenic bacterium is supposed to be capable of producing its own characteristic poison or poisons.

This idea seems to be fully established by positive experiments. Thus, the anthrax bacillus, by pure culture, furnishes a ptomaine which, when injected under the skin of an animal, produces the symptoms of this disease followed by death. The bacillus of tetanus has furnished by culture four poisonous ptomaines (which, however, may possibly prove to be only modifications of the same poison); these, when injected into an animal, occasion many though not all, of the well-marked symptoms of the disease. The typhoid bacillus furnishes in like manner its own specific ptomaine which has received the name of *typhotoxine* from its discoverer, Brieger. And several investigators have succeeded in procuring by culture of the cholera-germ—the comma-bacillus of Koch—poisonous bases which, when injected into animals, develop many of the recognized symptoms of cholera; although up to the present time the true cholera ptomaine does not appear to have been determined.

The next chapter treats of "The Importance of Ptomaines to the Toxicologist." It is to the toxicologist especially that the discovery of the putrefactive alkaloids is a matter of the very gravest consequence. Up to this era the different poisonous vegetable alkaloids had been pretty generally studied and understood; and in trials for murder by any one of these agents, the trained medical expert might reasonably be expected to determine, with certainty, by means of admitted tests, the presence or absence of the suspected poison. But the discovery of the ptomaines has thrown these results into no slight confusion, and has sufficed, in many instances, to create doubts and awaken suspicions as to their accuracy and reliability; inasmuch as some of these cadaveric alkaloids bear a remarkable resemblance to the well-known vegetable alkaloids, both in their chemical and physiological reactions. Hence, it will be readily seen how, in a case of alleged poisoning by one of the vegetable alkaloids—strychnine, morphine, or atropine, for example—it would be no difficult matter for a clever counsel, properly posted, so to mystify and impress an ordinary jury by a skillful application of this subject, as to weaken if not nullify all the positive proofs of the discovered vegetable poison furnished by the expert.

It becomes, then, a matter of the most serious import to the toxicologist to be able to discriminate in such an investigation; and fortunately for the cause both of science and justice, the lines can be drawn with sufficient accuracy by the properly instructed expert.

Some of these poisonous ptomaines may be briefly mentioned here. Several volatile, oily alkaloids have been extracted from dead human bodies, by the Stäs-Otto process (a similar process to that usually employed in the extraction of the vegetable alkaloids), which, in many particulars resemble *conuine* and *nicotine;* but which, however, do not respond to *all* the recognized tests for these poisons.

A *strychnine-like* substance has, in like manner, been extracted from a decomposed body, which yielded the usual color-test and several other reactions of strychnine; but it wanted the intense bitterness of this alkaloid and failed to produce the characteristic convulsions on frogs. The same is true of a ptomaine resembling *morphine* in some points, but lacking certain other recognized reactions of this alkaloid.

Other ptomaines have been procured from decomposing bodies which, in their mydriatic properties strongly resemble *atropine* and *hyoscyamine*. These are, moreover, crystalline bodies and respond to certain of the chemical reactions of the above alkaloids, but fail in others. Ptomaines have also been extracted, resembling in many particulars the alkaloids *veratrine*, *colchicine*, *digitaline*, and *delphinine;* but, as in the instances above mentioned, a critical examination discovers certain points of dissimilarity.

A further very important practical point for the toxicologist is the fact first ascertained by Tamba, in 1887, that the presence of one or more of these ptomaines along with the vegetable alkaloids will in some cases interfere with the usual chemical reactions of the latter, and thus serve to prevent their discovery. This latter subject is particularly worthy of attention.

Chapter V. treats of "The Modes of Extracting Ptomaines." These need no special notice here. Chapter VI. is devoted to "The Chemistry of the Ptomaines," in which the chemical composition, formulæ and teaching are given in detail, together with their *names*. Some of the latter, although thoroughly scientific, must appear to the uninitiated rather difficult both to pronounce and remember, *e. g.*, *ethylidenediamine* and *trimethylenediamine*, etc.

The two chapters on the *leucomaines* our space will only permit us to glance at very briefly. Although they are of considerable pathological interest, *leucomaines* are basic substances formed in the living tissues, "either as the products of fermentive changes or of retrograde metamorphosis." Many of these have been known for a considerable time; the list includes creatin and creatinin with their derivatives, and the uric acid group. Some of the leucomaines are formed in vegetable as well as in animal tissues. In the human system they doubtless play an important part in the production of diseases.

They are truly excretory products—the intermediate links, so to speak, between the highly complex proteids of the body and the ultimate products, urea, ammonia, water, and carbonic acid. Now, as some of these leucomaines are highly poisonous if retained in the system, it becomes important to provide for their due elimination, or neutralization. Their retention is clearly shown to be the prolific cause of disease, and hence, the prevention of their undue formation within the body, and the proper modes of their destruction and removal from the system, claims the special attention of both the pathologist and therapeutist.

We have given a somewhat detailed review of the work before us, both on account of the intrinsic importance of the subjects discussed therein and of the admirable manner in which these subjects have been handled. We heartily congratulate the authors on their performance, and bespeak for their book a cordial reception by the profession.

ABDOMINAL SURGERY. By Hal C. Wyman, M.S., M.D., 1888. Geo. S. Davis, Detroit, Mich.

We have not had time to read over this number of the Physician's Leisure Library, but we do not like the cover page nearly so well as the old style. The preface is rather lengthy, and in closing it the writer says: "Abdominal surgery, as I believe, should be practiced (in its present state of development at least) as a last resort, and so practiced the most successful operator, in my opinion, will be the one who is quickest to decide accurately when death is at hand, when the "last-resort-opportunity is offered." This is rather weak-kneed talk for a man who writes on abdominal surgery, and so far removed from what the great Scotch Surgeon, Sir G. H. B. Macleod, said in his address before the British Medical Association at Glasgow, this August, that it may not be a *faux pas* to quote the latter. He says: "Laparotomy now so frequently had recourse to, is justifiably employed even for exploratory purposes. After all penetrating wounds or even after injury without a wound where there is reason to fear that bleeding or extravasation has taken place, opening the abdomen, securing the aperture by suture and cleansing and draining the cavity is the recognized practice since Gross suggested it in 1843." "In intestinal obstruction and all forms of peritonitis"—this latter opinion is not accepted on this side yet—"laparotomy is now the rule."

DISEASES OF THE MALE URETHRA. By Fessendenden N. Otis, M.D. 1888: Geo. S. Davis, Detroit, Mich., Publisher.

It is unnecessary to go into any detail about anything written by Dr. Otis. He is always vigorous, decided and sensible in what he writes, and this piece of his writing is no exception. Naturally we do not expect a free treatise on the subject in a brochure of 86 pages: for this we would go to the larger work by the same author or others; but what we would expect—valuable suggestions and invaluable directions as to stricture, we are not disappointed in finding. We congratulate the publisher in adding such a useful number to the Physician's Leisure Library.

CONSERVATISM IN GYNÆCOLOGY. By A. Reeves Jackson, A.M., M.D. (Reprinted from the *Chicago Medical Journal and Examiner*). The Higher Education a Public Duty. An address delivered at the Commencement of the College of the City of New York. By J. Edward Simmons, LL.D.

THE HISTORY OF ABDOMINAL SECTION IN ALBANY. With a report of seventy-five cases. By Albert Vanderveer, M.D., Professor of Surgery in the Albany Medical College. (Reprint from Transactions of the Medical Society of the State of New York.)

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA. Twenty-first Annual Session, held at Huntington, May 16th and 17th, 1888.

MISCELLANEOUS.

THE AMERICAN PUBLIC HEALTH ASSOCIATION will hold its sixteenth annual meeting at Milwaukee, Wis., November 20-23, 1888.

The executive committee have selected the following topics for consideration at said meeting:

1. The Pollution of Water Supplies.
2. The Disposal of Refuse Matter of Cities.
3. Animal Diseases Dangerous to Man.
4. Maritime Quarantine, and Regulations for the Control of Contagious and Infectious Diseases, and their Mutual Relations.

Mr. Henry Lomb, of Rochester, N. Y., now well known to the American public as the originator of the "Lomb Prize Essays," offers through the American Public Health Association, two prizes for the current year, on the following subjects:

"Practical Sanitary and Economic Cooking Adapted to Persons of Moderate and Small Means."

First Prize, $500.
Second Prize, $200.

The conditions prescribed are similar to those usual in such contests and may be learned in detail by any one interested by addressing the secretary, Dr. Irving A. Watson, Concord, N. H.

THE TREATMENT OF COLDS AND BRONCHITIS.—When the cold is a widespread, general one, involving the whole body in a condition which, according to our own thinking, is a form of subacute rheumatism, with aching pains and general wretchedness, a free jaborandi sweat, followed by a few full doses of quinine, will often liberate the sufferer at once, especially if the sweats be aided by a mercurial or other purgation. Coryza has long been a bugbear to the family doctor, but, thanks to bismuth and cocaine, we are now enabled to view it without tremor. We learned also quite recently a curious lesson from an old barber: Happening to be in the shop when suffering from a violent cold in the head, the grizzled remnant of a colored regiment, now Junior Vice-Commander (Brigadier-General) of the Grand Army of the Republic, offered at once to cure us by manipulation. After much banter and the agreement of no cure no pay, the editorial head was well manipulated by the mysterious procedure of dry shampooing, and the result certainly was that the coryza disappeared. Bismuth and cocaine injections into the nose, we think, almost invariably, however, bring relief without calling in the assistance of the manipulator.

A mixture which we have often used with great advantage, and which is readily prepared in the household without the intervention of the apothecary, is made by adding a dessertspoonful each of whiskey, paregoric, and glycerine, and thirty minims of chloroform; the whole to be well shaken, and to be taken in teaspoonful doses *pro re nata*. In our earliest medical teaching was inculcated a profound faith in the value of hydrocyanic acid and wild cherry bark as a means of quieting a cough. Wild cherry bark preparations contain scarcely more than a trace of the prussic acid, and certainly are useless.

The early depressing expectorants of our boyhood and of the text-books have in our practice been replaced very largely by the citrate of potassium. If tartar emetic or ipecacuanha be given in such doses as to produce prolonged nausea and vomiting, it will undoubtedly usually bring about free secretion in the early stages of acute bronchitis; but the method is so disagreeable and so exhausting that it is only to be tolerated when the patient is a robust man, to whom time is so important that it is essential that he be cured in the most speedy manner possible, even at great bodily inconvenience and some risk. Unless the older depressant expectorants be given in nauseating doses they have comparatively little power, and we think that any of our readers who will use the following cough-mixture in the first stages of bronchitis will never depart from its employment unless some new remedy of greater power be discovered. The dose of it, of course, must be varied according to the strength and peculiarities of the individual patient. That which we indicate is for a robust man:

℞

Potass. citrat.,	℥i.
Suc. limonis,	f. ℥iss.
Syr. ipecac,	f. ℥ss.
Tr. opii camph.,	f. ʒiii.
Syrupi. q. s. ad	f. ℥iii.

S.—Dessertspoonful every two hours.

Of the older stimulating expectorants, the only ones which still retain our confidence are the muriate of ammonium, and the syrup of garlic. The ammonia salt does not seem to have a very peculiar influence upon the respiratory mucous membrane. It is valuable in acute bronchitis when free secretion has once been established, but in some cases it seems also to have the power of bringing about secretion. In the rare instances in which the citrate of potassium mixture fails, we habitually resort to the muriate of ammonium, and have often seen very good results.—*Therapeutic Gazette, April.* 1888.

AGARICIN FOR THE SWEATS OF PHTHISIS.—Lauschmann (*Pest. med. Chir. Pr.*, 1887, Bd. 4) recommends the following formula:

℞.—Agaricin,	gr. j.
Pulv. ipecac. et opii,	gr. xv.
Gum Arabic, Pulv. alth.	āā gr. viij.—M.

Ft. Pil. No. xv.

S.—One or two pills at night.

—*Deutsche med. Woch.*, July 5, 1888.

REMARKS ON THE DEATH OF DR. A. Y. P. GARNETT. (Made at the Medical Society of the District of Columbia, by John B. Hamilton, M.D.)—"A giant among medical workers has fallen; a dauntless soul has left our midst. A gentleman without fear and without reproach; a physician with a spotless record; a practitioner most able; a consultant clever, courteous, and conscientious; a scholar of high repute; a medical officer skilled in the exigencies of military and naval warfare; a man of the utmost energy; a devoted friend. All these attributes were possessed by our late colleague, the fact of whose future absence from our meetings falls on more than one here to-night as a personal loss.

"Many of us had been accustomed to look for sympathy, support, and counsel to our departed colleague, whose wide knowledge of the world, great learning, and vast experience made it a pleasure to be associated with him.

"Dr. Garnett, leaving us at the age of sixty-eight, has left us the record of a life singularly complete in all that makes a gentleman and high-class professional man.

"Having graduated with honor, he entered the United States

Navy, and in due course was promoted to the rank of Passed Assistant Surgeon. It was at this time that he made the voyage round Cape Horn, and visited the Chilian coast. He wrote an interesting account of some cases observed in the service, which was published in the *American Journal of Medical Sciences.* He was ordered to Washington, and after marriage resigned and settled in this Capital.

"He was engaged in active practice when the late Civil War began. Who shall censure him now, that he followed the fortunes of his State rather than those of the old flag? Dr. Garnett always acted true to his convictions of right, as the needle to the pole. Others might scold, sulk, and backbite if they wished, and remain under the protection of the flag while in enmity to its defenders; but not he! Business, property, peace, and comfort were exchanged for the hardships of the camp, the battlefield, and the retreat, because his convictions of the righteousness of the Southern cause forced him into the front.

"Brave, honest, and true Doctor Garnett. No Northern soldier but honors his hatred of hypocrisy and his courage.

"The war ended, his antagonisms died, and his practice was resumed with success and the reward which none envied, and all approved.

"He has lived as a gentleman and physician should live, and he has gone full of years, and covered with honors; but while our tears mingle with those of his immediate family, let us reflect with some satisfaction that we loved him while he lived, and honored him while he was yet in the flesh, and that he was spared the bitterness, so often accorded our great men, of meeting only envy, hatred, and detraction during life. And so, while our colleague has passed beyond our ken to the realms of the unknown shore, the comforting thought comes to us that, while with us, he knew of our devotion, and repaid us with his esteem."

TREATMENT OF ECZEMA.—Mr. J. A. Wetherell says: "What is to follow has particular reference to the eczema simplex affecting the fingers and hands. The best procedure, possibly, will be to divide the subject into sections.

"1 *Medical Treatment.*—(*a*) External. I dip pieces of lint, sufficient to surround the fingers separately, in pure liquor carbonis detergens, and apply them, surrounded by gutta-percha tissue, at bedtime. They are allowed to remain on all night. Considerable smarting is at first caused, but it soon disappears. On removing the lint in the morning the skin looks sodden, the former vesicles are often raised into small bullæ, which, however, ere long get absorbed and dry up. During the day the hand is left exposed to the open air, or, better still, kept gloved in thin kid. They are washed every third day with lanolin coal-tar soap. To render the skin more pliable and soft a little lanolin is rubbed in every morning. In the course of three or four days the upper hardened cuticle comes off, in some cases as a whole, in others in large flakes, leaving a clean, smooth surface, healthier, with more tonicity in it, and not so subject to undergo the catarrhal multiplication so characteristic of eczema. When much redness or heat exists, or there is an acrid discharge, or the implicated surface is extensive, we may moderate the strength of the alcoholic solution of coal-tar by mixing it with (1-10 or 20) cold water; or the alkaline bathing, to be presently mentioned, may be tried. If there are only a few vesicles, I have often touched them over with a little pure carbolic acid, so as to bring away a mere shell of epidermis of limited area. Let us now briefly review a few of the other local methods adopted. As to ointments—*e. g.*, of bismuth, zinc, etc.—all I have to remark is that they are, like the tar method of Hebra, simply disgusting. Even the lowest menial does not care to parade the streets with his fingers or hand bandaged up with so many white linen rags, to say nothing of the small amount of relief producable. Huile de cade or oleum rusci pyroligneum painted over the parts every day or two will soon dispel an ordinary case; but what about the, to most people, disgusting smell? The treatment verily is worse than the disease. Bathing with saline or alkaline waters, such as are found at Harrogate, Bath, etc., alternating or combined with the application of spirituous alkaline lotions, I have great faith in, especially where the disease is extensive or there is much exudation—*e. g.*, in eczema rubrum, or the case is intractable to other means. Watering-places and the seaside, however, are not always near; nor could the patient always afford to go to them. The various gelatine, collodion, or other impermeable coatings, I consider worthless. (*b*) Internal. Drugs, as such, are not required. To speak of treating the gouty or rheumatic diathesis by colchicum, etc., is simply ridiculous. Such terms as these should, in my opinion, be abolished, or applied only where actual attacks of gout or rheumatism exist or threaten. Should we not rather speak of such as 'a constitution with a tendency to excessive formation of uric acid,' or even as 'uratic.' To give large doses of arsenic is sheer waste of material. Very small doses often dispel scaliness; but it should only be administered in the form of some mineral water, as La Bourboule, Woodhall, etc.

"2. *Dietetic Medication.*—Avoid stimulating and indigestible substances, as pickles, tea, etc. In other words, the chief materials of diet should be lean meat, milk, or cocoa to breakfast, old bread, fresh vegetables (except starchy bodies, as potatoes); no pastry Avoid all that disagrees, especially beer and malt liquors.

3. *General Indications.*—Cleanliness in everything is very essential; clothe and diet the patient according to the changing season; avoid all local irritants; let him take plenty of fresh air and exercise, and by these means alone regulate the bowels and other emunctories.

"In spite of all rules, cases now and then occur which withstand all treatment, baffle every effort, and cling to the sufferer for a lifetime. Such must be attacked on general principles. The plan cannot be a stereotyped one."—*Lancet,* June 2, 1888.

MEDICAL NEWS AND NOTES.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.—The Committee of Arrangements announces that the arrangements are sufficiently advanced to assure the success of the First Triennial Session of the Congress of American Physicians and Surgeons, which will be held in the city of Washington, during the 18th, 19th and 20th of September next.

A number of distinguished foreign physicians and surgeons have signified their acceptance of the invitation to attend, among whom may be named Sir Spencer Wells, Sir Andrew Clark, Sir William Mac Cormac, Drs. W. O. Priestley, William Ord and Grainger Stewart, Mr. Lawson Tait, Mr. Victor Horsley, Mr. Thomas Bryant, Mr. Thomas Annandale, Professors Ferrier, Esmarch and Gerhardt, Drs. Rafael Lavista, of Mexico, and J. L. Reverdin, of Geneva.

The preliminary programmes of the participating societies have already been published. The classified and final programmes will be printed and distributed at an early day.

Places of meeting for the Congress and each of the Societies have been secured, conveniently located, so that members may interchange attendance without annoyance. All the sessions will be open to the profession.

The meetings of the Congress will be held in the evenings, beginning at 8 o'clock P.M.; on the evenings of the 18th and 19th the meetings will be held in the main hall of the Grand Army Building, 1412 and 1414 Pennsylvania Avenue, and on the last (Thursday) evening in the Hall of the National Museum during this evening the Army, Medical Museum and Library building, alongside of the Museum building, will be lighted and opened for the inspection of the members and invited guests.

The meetings of the special societies will be held during the day, according to the programme of each, at the following places:

American Surgical Association, Main Hall, Grand Army Building, 1412 and 1414 Pennsylvania Ave.

Association of American Physicians, Hall No. 1, Grand Army Building, 1412 and 1414 Pennsylvania Ave.

American Climatological Association, Hall No. 2, Grand Army Building, 1412 and 1414 Pennsylvania Ave.

American Laryngological Association, Hall No. 3, Grand Army Building, 1412 and 1414 Pennsylvania Ave.

American Dermatological Association, Parlor in Willard's Hotel.

Association of Genito-Urinary Surgeons, Parlor in Willard's Hotel.

American Neurological Association, Parlor in Willard's Hotel.

American Orthopedic Association, Welcker's Hotel, 15th St. N. W.

American Otological Society, Arlington Hotel, Vermont Ave.

American Physiological Society, Army Medical Museum.

American Opthalmological Society, Arlington Hotel, Vermont Ave. and H Street.

American Gynæcological Society, Columbia University, Fifteenth and H Streets N. W.

American Association of Obstetricians and Gynæcologists, National Medical College Building, H Street N. W.

On Monday evening, September 17th, a dinner will be given by members of the Congress to the guests of the participating societies. It will be limited exclusively to members of the Congress and invited guests. Members desiring to participate are requested to notify the Chairman of the Committee of Arrangements.

An informal collation will be served at Willard's Hotel on Tuesday evening, after the adjournment of the session of the Congress. A similar entertainment will be served in the National Museum building on Thursday night, after the final adjournment of the Congress.

The Secretaries of the special Societies are requested to forward to the Chairman the names and addresses of their foreign guests.

Guests are requested to notify the Chairman immediately after their arrival in Washington, of their address and whether they have ladies with them, for the entertainment of whom special arrangements will be made.

Members of the Congress and the guests are expected to register. A registration office will be opened in a parlor in Willard's Hotel, from which the mail of the members and guests will be distributed, and at which the city residence of each member or guest can be ascertained.

All communications to the Committee of Arrangements should be addressed to Samuel C. Busey, M.D., Chairman, 1545 I Street, N. W., Washington City.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS. *Preliminary Announcement of the Committee of Arrangements.*—This Association will hold its first triennial session in the city of Washington, during next September 18, 19, and 20. The meetings of the Congress will be held in the evenings, beginning at 8 P. M., and those of the societies composing the Congress will be held during the daytime, according to the programme each may respectively provide. The sessions will be open to the profession.

The Local Committee of Arrangements of the Congress has secured places of meeting for the Congress and each society in close proximity, so that the members of the respective societies can interchange attendance at pleasure, without inconvenience.

It is the purpose of the Executive Committee of the Congress to print the programmes of all the societies, provided copies be supplied on or before August 15.

The Local Committee requests the secretaries of the societies to forward the names of those of their invited guests who have accepted their invitations, designating them as foreign and American.

The Committee of Arrangements is composed of one member of each society represented in the Congress, as follows: Drs. Samuel C. Busey, Association of American Physicians; J. Ford Thomson, American Surgical Association; R. T. Edes, American Neurological Association;

E. C. Morgan, American Laryngological Association; W. W. Johnston, American Climatological Association, Washington; J. E. Atkinson, American Dermatological Association, Baltimore; A. Sydney Roberts, American Orthopedic Association, Philadelphia; H. Newell Martin, American Physiological Society; Samuel Theobald, American Ophthalmological Society, Baltimore; S. O. Richey, American Otological Society, Washington; A. T. Cabot, American Association of Genito-Urinary Surgery, Boston.

Inquiries may be addressed to the Chairman, Dr. Busey, at Washington; or to the representative member of each society on the Committee.

It may also be stated that the Committee of Arrangements of the American Gynæcological Society, which will hold its next annual meeting in Washington at the same time, is composed of Drs. Busey, Taber, Johnson, and King.—*Journal of American Medical Association.*

PROGRAMME OF THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS, TO BE HELD IN WASHINGTON, D. C., SEPTEMBER 18, 19, AND 20, 1888.—The President's Annual Address, Dr. William H. Taylor, Cincinnati. *Discussion* (*Extra-uterine Pregnancy*).—1. Pathology. 2. Diagnosis. 3. Treatment. (*a*) Medical. (*b*) Electrolytic. (*c*) Surgical. The relations of the abdominal Surgeon to the Obstetrician and Gynæcologist, Dr. Albert Vander Veer, Albany; Operation for an Unusual Case of Subserous Uterine Fibroid, Dr. Hampton Eugene Hill, Saco, Me.; Drainage in Abdominal and Pelvic Surgery, Dr. Joseph Price, Philadelphia; Double Ovariotomy During Pregnancy, a Successful Case Going on to Full Term, Dr. William Warren Potter, Buffalo; The Indications for Artificial Aid in Labor, Dr. Thomas Opie, Baltimore; The Technique of Vaginal Hysterectomy, Dr. James H. Etheridge, Chicago; The Surgical Treatment of the Perineum, Dr. William H. Wathem, Louisville; Laparotomy in Peritonitis, Dr. E. E. Montgomery, Philadelphia; Tumors of the Abdominal Wall, Dr. Charles A. L. Reed, Cincinnati; Uterine Fibroids; Their Diagnosis and Treatment, Dr. Thomas J. Maxwell, Keokuk; Desmoid (fibroid) Tumors of the Abdominal Wall, Dr. Edward J. Ill, Newark; Ruptured Perineum, Dr. J. Henry Carstens, Detroit; A Contribution to the Study of Pelvic Abscess, Dr. Clinton Cushing, San Francisco; The Female Perineum; Its Anatomy, Physiological Function, and Methods of Restoration after Injury (this paper will be illustrated with lime-light and screen), Dr. Henry O. Marcy, Boston; Heart Failure in the Puerperum, Dr. Thomas Lothrup, Buffalo; Treatment of Suppurative Peritonitis, Dr. William H. Myers, Fort Wayne; Operative Treatment in Uterine Carcinoma, Dr. George R. Shepard, Hartford; The Reflexes Reflected, or Some Things that Retard Progress in Gynæcic Surgery, Dr. Joseph Eastman, Indianapolis; Some Points in Relation to the Diagnosis of Pregnancy in the Early Months, Dr. James P. Boyd, Albany; Vaginal Tamponnement in the Treatment of Prolapsed Ovaries, Dr. W. P. Manton, Detroit. Mr. Lawson Tait, F.R.C.S.E., Birmingham, Eng., will also present a paper on the Methods of Success in Abdominal Surgery.

Note.—Mr. Lawson Tait, Dr. Franklin Townsend, Dr. E. E. Montgomery, Dr. Charles A. L. Read, Dr. A. Vander Veer, and others will participate in the discussion on Extra-uterine Pregnancy. The full announcement of the topics that each referee will speak to, will be made in the final programme to be issued in August. William H. Taylor, M.D., President; William W. Potter, M.D., Secretary.

DURING the winter session of 1887–1888 over three hundred and thirty-five different physicians attended the courses of instruction in the New York Post-Graduate Medical School and Hospital, 226 East Twentieth Street, New York City. An increase of more than sixty per cent. over last year. In the Hospital Department about four hundred operations were performed all of major importance To all of these Matriculates had access, as the Hospital is used solely as a means of clinical instruction. The remarkable increase in the matriculation list has necessitated both larger clinical space and hospital accommodations, so that a new clinical amphitheatre has been erected and will be used for the first time at the opening of the winter session, September 17th, 1888. A new and commodious laboratory has been erected and furnished with the latest apparatus for the study of normal and pathological tissues. The nose and throat clinical room has also been enlarged.

Dr. Abraham Jacobi, Robert F. Weir, Joseph E. Winters, L. Bolton Bangs, and Peter A. Callon, have been appointed to the Faculty.

The session of 1888–1889 promises to be the most prosperous ever held.

OBSTETRICAL POETRY IN IRELAND.—In a paper read before the Kentucky State Medical Society at its meeting, July 13th by Dr. E. S. McKee, some amusing and interesting specimens of Irish wit expressed in poetic language attracted special attention.

Edward Foster practiced midwifery as his particular branch of the healing art, in the last century, and Gilborn thus wrote of him:

"Judicious Foster feels the latent pulse,
To hidden maladies gives quick impulse,
In parturition brings propitious aid
Each dame retrieves who has by him been laid.
He teaches pupils either sex apart
In learned lectures his mysterious art."

The Rotunda Lying-in-Hospital is the oldest of its kind in the British Isles and the oldest but one in the world. It was founded by Dr. Bartholemew Mosse who experienced many vicissitudes in his noble endeavors, and his heroism in the face of difficulties, slander and poverty, is worthy of all honor. In establishing the admirable institution which freely receives within its walls all who have poverty for their plea, and the pangs of approaching maternity as the grounds of their request; he plunged himself deeply in debt and was arrested in Wales when returning from London and thrown into debtor's prison.

His successor was Fielding Ould, who was afterward knighted. Upon this occasion some contemporary wrote:

> "Sir Fielding Ould the sword of knighthood gained,
> For saving ladies' lives in childbed pained."

Also another who thought the rank conferred was not exalted sufficient;

> "Sir Fielding Ould is made a knight,
> He should have been a Lord by right:
> For then each lady's prayer would be,
> O Lord, good Lord deliver me."

McClintock accords to him the honor of attending the Countess of Mornington at the birth of the Duke of Wellington. He attained considerable prominence while still comparatively young and was described by a jealous critic as "the youngest surgeon practicing midwifery in the city."

The R. C. P. I. refused to examine him for the degree of Trinity College on the ground that the practice of obstetrics was degrading to the dignity of the profession of medicine. This absurdity was shown up in its ridiculous light by Gilborn, who wrote:

> "The College him a Fellow would announce,
> Condition this, to midwifery renounce;
> Renounce but sooner he would his right hand,
> Than from the service of the Fair disband.
> Why may not a doctor who would choose
> For man's relief his total knowledge use,
> Or does one portion of Apollo's trade
> More than the rest his votaries degrade?"

PRELIMINARY ANNOUNCEMENT OF THE ANNUAL MEETING OF THE SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION, TO BE HELD AT BIRMINGHAM, ALABAMA, SEPTEMBER 11, 12, 13, 1888. —*Subjects:* Floating Kidney, with Vicarious Menstruation, DeSaussure Ford, M.D., Augusta, Ga.; Gastrotomy, W. B. Rogers, M.D., Memphis, Tenn.; The Medical Treatment of Fibroid Tumors of the Uterus, Bedford Brown, M.D., Alexandria, Va.; Indications for Operative Interference in Cerebral Troubles, T. O. Summers, M.D., Jacksonville, Fla.; A Case of Tubal Pregnancy, Presenting Interesting Medico-Legal Relations, E. P. Sale, M.D., Aberdeen, Miss.; Superinvolution of the Uterus following Trachelorraphy, Virgil O. Hardon, M.D., Atlanta, Ga.; I. Dermoid Cysts of the Coccygeal Region, and II., Electrolysis in Gynæcology and Surgery, E. J. Beall, M.D., Fort Worth, Texas; Alexander's Operation, W. L. Nichol, M.D., Nashville, Tenn.; Hysterectomy in Cancer of the Uterus, W. H. Wathen, M.D., Louisville Ky.; The Extravagancies and Impracticable Requirements of Modern Antiseptic Surgery, so far as the Country Practitioner is Concerned, J. M. Taylor, M.D., Corinth, Miss.; Treatment of Fractures with Plaster of Paris Splints, W. F. Westmoreland, Jr. M.D, Atlanta, Ga.; The Present Status of Electro-Therapeutics in Gynæcology,

J. R. Buist, M.D., Nashville, Tenn.; Antiseptics in Surgery and Gynæcology, F. T. Meriwether, M.D., Asheville, N. C.; The Attitude of Removal of the Uterine Appendages for the Cure of the Convulsive Neuroses, W. Lock Chew, M.D., Birmingham, Ala.; Interesting Cases of Surgery, R. M. Cunningham, M.D., Pratt Mines, Ala.; My Antiseptic Bags, or Practical Aseptic Surgery, J. W. Long, M.D., Randelman, N. C.; The New Departure in Uterine Therapeutics—The Dry Method, T. A. Means, M.D., Montgomery, Ala.; A Study of the Various Methods of Treatment of Laceration of the Perineum, and Rectocele, with Report of Cases, J. H. Blanks, M. D., Meridian, Miss.; Report of a Case of Spinal Concussion, John R. Page, M.D., Birmingham, Ala.; Fractures of the Forearm, John Brownrigg, M.D., Columbus, Miss.; Some Practical Thoughts in Surgery, James Guild, M.D., Tuscaloosa, Ala.; Perineal Lacerations, M. C. Balbridge, M.D. Huntsville, Ala.; Electrolysis in the Treatment of Urethral Strictures, S. M. Hogan, M.D., Union Springs, Ala.; The Field and Limitation of Laparotomy, I. S. Stone, M.D., Lincoln, Va.; Operative Procedures in Hypertrophy of the Prostate, R. D. Webb, M.D., Birmingham, Ala. Discussion: Abdominal Surgery. Drs. John Herbert Claiborne, Duncan Eve, Paul F. Eve, W. T. Briggs and others will present papers, but as yet have not stated their subjects.

NOTE.—The Association will convene in the hall of the Y. M. C. A. at 10 o'clock A. M. each day. The Annual Oration will be delivered at O'Brien's Opera House on the evening of the first day's session, at which time the Mendelssohn Club of Birmingham will give a concert for the entertainment of the Association. Entertainments have been arranged by the local committee to take up all the hours not occupied by the sessions. Hotels and railroads will give reduced rates, but only those holding certificates, signed by the ticket agent at point where through ticket to place of meeting was purchased, will be entitled to the two-thirds reduction in return fare.

W. D. HAGGARD, M.D., *President.*

WM. E. B. DAVIS, M.D., *Secretary.*

MEDICAL WOMEN.—In the pass-list of the Intermediate Examination for the M.D. degree of the University of London, which has just been published, we notice the names of no fewer than twelve students of the London School of Medicine for Women. Whatever may be thought of the general fitness of women for the practice of a profession so harassing to mind and body as that of medicine, it is satisfactory to find that so many of those who have resolved to embark on that career are preparing themselves for it with such thoroughness as is implied in the course of study necessary for obtaining a medical degree from so exclusive a body as the London University.—*Brit. Med. Journal.*

DR. HENRY RAPHÆL, of New York, died at Saratoga, August 4th, in the forty-eighth year of his age. He was born in Russia, but came with his parents to this country at an early age. After a public school education, he studied medicine and was graduated from Bellevue Hospital Medical College; subsequently serving as house-surgeon in Bellevue Hospital. Up to a few years ago, he had a large private practice, but failing health compelled him to relinquish it. Dr. Raphæl is well-known to the profession by his excellent translations of Vogel's "Diseases of Children" and Von Zeissel's "Syphilis," published by the Appletons. He also translated several works of German fiction, and for several years contributed largely to current medical literature.

ANEURYSM OF INNOMINATE ARTERY.—Dr. James Dunlop ligatured the right common carotid and subclavian arteries for innominate aneurysm, at the Glasgow Royal Infirmary, on August 1st, and the patient is so far doing well. This is the second case of innominate aneurysm operated on by Dr. Dunlop within a few months. The first case has been almost a perfect cure, and the patient has been seen this week by many members of the Association to be strong and well, and with barely a trace of his former ailment.

LIEBERMEISTER, of the medical faculty of the University of Tübingen, has been made a consulting body physician by the King of Wurtemberg.

MAX FÜRBRINGER, of Amsterdam, has been elected Professor of Anatomy at the University of Jena.

PREYER, of Jena, has resigned his professorship to go to Berlin in the fall. The medical faculty of the University has unanimously decided to establish a second chair in anatomy, for which position Dr. Bardeleben is held in view.

AT the Commencement Exercises of Union College, in June, 1888. the honorary degree of LL.D. was conferred upon Mr. Lawson Tait, F.R.C.S., Prof. of Gynæcology in Queen's College, Birmingham, Eng.

THE University of Bologna has conferred honorary degrees in medicine upon the following representatives of German medicine: Liebermeister, Schiff, Koch, Billroth, Köllicker, Pettenkofer, Ludwig, Virchow and O. Hertwig.

DR. GERHARDT, who attended the late Emperor Frederick in the earlier stages of his fatal illness, has been elected Rector of the University of Berlin. Dr. Waldeyer has been appointed Dean of the Medical Faculty for the coming year.

DR. GEORGE M. STERNBERG, U. S. A., and Dr. Hirsch, of Berlin, have recently been elected Honorary Members of the Epidemiological Society of London.

DR. LÖFFLER has been made ordinary Professor of Hygiene, and Dr. Knorr, of Würzburg, the discoverer of antipyrin, Professor Extraordinary, at the University of Greifswald.

EDITORIALS.

THE Fifty-sixth Annual Meeting of the British Medical Association was held in Glasgow, August 7th, 8th, 9th and 10th, 1888. The Association is to be congratulated upon the work accomplished which abundantly proves that this meeting was a very successful one. The address in Medicine by Dr. Clifford Allbutt is highly suggestive and is well worthy of careful perusal. Equally admirable is the address in Surgery by Sir Geo. A. B. McLeod, while the address on the Surgery of the Brain and the Spinal Cord, by McEwen, constitutes an inestimable contribution to modern surgical science. If we do not err, however, we believe that the excellent address of the President, Dr. W. T. Gairdner, the distinguished Professor of Medicine in the University of Glasgow, will excite more interest and be more widely discussed than any similar address of modern times. The theme on which he discourses, in his own words is as follows : "For a series of indeterminable ages, from the time very probably, of Hippocrates downwards to what we call the Dark or Middle Ages, the tradition has continuously existed that the *healer* or physician of the highest class ought also to be in a very real sense of the word, a *naturalist* or perhaps a man of *science* (physical science being of course understood); that it is his prerogative to be trained and exercised after the best manner and according to the most thorough discipline of the science of his age ; and that he ought to be (or, at least that he has been in very remote times) regarded as being admirable and trustworthy as a healer or physician, chiefly in proportion to the confidence reposed in him as a *naturalist*, that is a humble, reverent and exact follower and student of Nature." Accordingly a large part of this discourse is devoted to show the supreme importance of the study of physics and natural science as the basis of a thorough medical education. We agree with him most heartily in the views he advocates, that young men ought to be trained in physical science before beginning their studies in medicine. What he says in regard to the unprepared state in which the minds of most boys and young men of his country are found at the time of their leaving school as regards the most elementary truths and methods of physical science and of the observation of nature, is true of the young men of this country to a still greater degree. Undoubtedly there has been great improvement in this regard in many of our preparatory schools of late years, but there is need of further change in our educational system, and especially in this that children should be taught to exercise their powers of observation at a very early age. The concluding part of this address is occupied with the subject of *religio medici*, and we could wish for the sake of his reputation as a scholar and a scientific thinker that the author had omitted this portion of his address. It abounds in errors of rhetoric and of logic, and exhibits, in its entire argument confusion of thought. To have penned such a sentence as this is hardly worthy of his reputation . . . "to have been tabooed with atheism is often almost without qualification a passport into the ranks of those who have kept alive the flame of the human spirit, tending and often vainly struggling upwards to escape from the jargon of scholastic controversies and the mephitic vapors of ecclesiastical strife." He is speaking of the physicians or naturalists of a past age, who incurred the reproach of infidelity. We have not time to analyze his argument in detail in order to show its want of straightforwardness; but we will quote sufficiently from his utterances to show that our criticism is just: "The physician of the future will, I believe," he remarks, "be much more instead of less inclined to make his study of the Bible than hitherto, and in this respect will differ greatly from the representative and typical 'Doctour of Phisike' of the *Canterbury Tales.* But he will study it in the spirit of modern scientific freedom and historical research—not under the influence of mere tradition and ecclesiastical authority. And thus only, as it seems to me, can the reconciliation of science and religion ever be brought about." Again, "but I desire you very specially to remark as my own personal anticipation, shared, I have no doubt, by many of those now present, that the physician, in his character of student of Nature, will make, and in the end will establish, this claim to emancipation—not in virtue of any irreverent, much less atheistic tendencies, but for the very reason that he has access to a revelation of God, distinct from the written revelation, and requiring a wholly different method of investigation. In obedience to this call he will, sooner or later, absolutely decline to walk in the leading strings of ecclesiastical tradition. And in so doing he will (far from fulfilling old Don Chaucer's satirical description) studiously insist upon the Bible, and especially the New Testament, and above all, the recorded life-words and works of our Lord himself, as containing, by implication, the charter of his emancipation, and the only perfectly free religious atmosphere as yet opened to human thought and inquiry." "There are two books," says Sir Thomas Browne, "from which I collect my divinity, besides that written one of God, another of his servant Nature, that universal and public manuscript which lies expansed unto the eyes of all." But as Dr. John Duns, the eminent Professor of Natural Science in New College, Edinburgh, truly remarks: "The message which he sends to man 'by his servant Nature' must never be allowed to overshadow or to weaken that which is contained in his holy Word." And this is just the tendency of Dr. Gairdner's entire argument. In the study of the Bible he will ignore the aid of theologians, notwithstanding they may be like De Wette, described by Geike as a man "than whom among all the Biblical critics of Germany, no one has risen with an intellect more piercing, a learning more vast, and a freedom and fearlessness more unquestioned." And to demonstrate his unfitness as an interpreter, he quotes a passage from St. John which he totally misunderstands and misapplies. Such a guide as this will never lead us out of the dreary darkness of doubt and atheism. Such teachers remind us of the terrible dream of Jean Paul Richter, in which he says, "I passed through unknown shadows on whom ancient centuries were impressed; they were all standing around the empty altar. On the church dome was a dial plate, whereon no number appeared, *but a dark finger pointed thereon, and the dead sought to see by it.*" "Yes; unbelief is as old as Creation," remarks Dr. Duns, "ungrateful it brings no gift to the altar; its finger points only downwards to the dark, and *they* lose all who follow its direction. But we have an altar which is not empty; for we have laid the offerings of love and service where our Redeemer once lay." Very apposite to this discussion are the remarks of Dr. Pusey, made at the Norwich Conference in 1865. "Physical science and faith were not commensurate," he observes, "faith related to what was supernatural; science to things natural. Faith rested upon what was supernatural, science upon means natural, powers of observation, indication, combination, inference, deduction. Faith had to do chiefly with the invisible; science with this visible order of things; science related to causes and effects, the laws by which God upheld his material creation. Faith related to God, his revelation, his word. Faith had the certainty of the divine gift. Science was the human certainty, the human reasoning. Faith was one divine, God-given habit of mind; it was one and the same in the well-instructed peasant and in the intellectual philosopher."

THE RELATION OF AIR CURRENTS TO QUARANTINE.—Dr. Bujivid, of Warsaw, Poland, has made microscopical examination of hailstones that fell in that city, and has found them to contain numerous bacteria. The bacillus ianthinus was found in especial abundance. The presence of bacteria in hailstones proves, all means of vitiation in the experiments being excluded, that they were carried upward from some source or other on the earth's surface, and scattered through the cloud which was converted into hail. For we have not yet arrived at such a pass that we are willing to believe in the existence of bacteria in the circumambient air, as we know them to exist on the earth's surface. There is no reason to assume that bacteria being caught in an ærial current might not be transported to great distances. Winds travel in currents, and it is only necessary for a current of air to be charged with bacteria for them to be deposited along the track of the current. The experiments of Dr. Dennis, of New York, and of others, have shown that bacteria are deposited in clumps or clouds, *i. e.*, are not deposited uniformly. It has long been an observation that many infectious diseases are transmitted from place to place in ways that are apparently mysterious—transmissions that could not be accounted for by intercourse of any description between the men or animals of the originally infected region and those of the newly attacked.

That remarkable novelist, Eugene Sue, in speaking allegorically of cholera, likens it to the Wandering Jew, who went from place to place unseen and unheard, selecting certain houses in certain streets, and certain inmates in the houses for its prey.

The finding of germs in hailstones proves that bacteria are carried to great distances above the earth; their transmission from place to place in this way may be easily understood. The cleansing and purification of a neighborhood after rains is most probably due to the fact that clouds of bacteria are brought down from the air and carried off to rivers or the sea where their vitality is destroyed by the process of oxidation by virtue of the motion of the water as it rolls in rivers or washes in bays and seas.

This purification of the atmosphere, even after thunder storms, so far as bacteria are concerned, must be wrought chiefly by the downpour of rain; for it has been experimentally shown that the electrical current has no effect on the vitality of bacteria when passed through solutions of them in water. Of course it would be highly irrational to assume that those bacteria are not killed which come directly in the track of the electric spark in thunder storms; but the experiments which have been made in this direction render it at least improbable that an electrical current short of ignition has great destructive action on bacteria. When we consider the fact that all of our efforts against the conveyance of infection must be restricted, *de natura rerum*, to the tangible things of earth, and that the wind bloweth where it listeth, it appears as if a perfect quarantine were impossible—and indeed it is. May not the transference of germs by currents of air account for the extreme infectiousness of smallpox. Some infectious diseases we know are not so infectious as others; it is possible that their germs may lose their vitality by the oxidation they are subjected to in their passage about on the wings of the wind—even as a river containing numberless bacteria purifies itself in rolling.

Dr. Prudden's experiments with the ice of the Hudson River have shown that only a few bacteria are killed by cold, and that many hibernate as it were in icy winter quarters till the warmth of spring comes to bring them freedom and restores to them their virulence.

The direction of our disinfection must be toward destroying the *nidus viri*. Only by purifying the spot from which the wind takes up the infection, can we hope to influence the spread of disease through the medium of the air. For this reason, a ship that lies at quarantine in or out of harbor, should not only be cut off from all direct communication with land, but should be thoroughly disinfected before the arrival of the health officer. If even the health officer alone go aboard an infected ship and return to an uninfected community, that community is no longer safe. We believe that the health officer is the means of introducing infection into a community as often as anyone else.

An International Marine Quarantine Congress would do well to establish laws that a system of signals be adopted by which the exact character of an infectious disease on a ship be made known before it come into a harbor; that a regular method of disinfection be established—the captain being instructed in the manner of performing said disinfection in absence of a ship surgeon; that directions for the performance of the disinfection be printed and preserved on shipboard; that every ship in sailing from port comprise in its supplies the materials and means of accomplishing the disinfection thoroughly. It is very evident that quarantines as they exist at present are not sufficiently strict to prevent the inroad of infectious disease into a port.

Any feasible plan by which quarantine could be rendered more nearly perfect is worth considering. Let us look at the matter as it exists. A ship from an infected port arrives off quarantine, let us say she indicates by signal that she has infectious disease on board. The health officer, or his assistant, steams up in a tug which lies along side and is tied to the infected ship. The health officer climbs on board and goes over the whole ship if he is conscientious; at any rate he comes in contact with enough people to carry the germs of an epidemic off with him. The tug steams back, and the health officer reports. Now it is improbable that all the men on that tug are quarantined strictly; it is barely possible that they come in contact with others before they are rid of the germs that they have gathered. We believe that this method of procedure is not strict quarantine. It is hardly probable that an ideal one will ever be attained on account of the fact that germs may be transmitted by air currents.

But if a ship be disinfected before it enters port, it is much less probable that the city will be tainted by the air currents that blow from the ship to the land, than if the ship remain infected with every breeze from it bearing clouds of germs.

We believe if nations were to agree upon some such plan as is herein indicated, that one step more would be taken toward the better protection of seaport towns at any rate.

THE ESTABLISHMENT OF INSTITUTIONS FOR THE PRACTICAL TEACHING OF HYGIENE.—The *Sanitary Engineer* of July 14th contains an article relative to the establishment of laboratories and museums of hygiene for teaching purposes in this country. The first steps toward the establishment of such an institution here has been taken by the School of Mines of Columbia College. Dr. Proust, Prof. of Hygiene in the Faculty of Medicine, Paris, states that a laboratory and museum specially designed for use in teaching practical hygiene is soon to be built in that city. The building is to be modelled after the one in Munich, built and equipped for the use of Dr. Von Pettenkoffer. Berlin, Liepzig, Göttingen, Buda-Pesth and Amsterdam also, can boast of laboratories specifically devoted to the teaching of practical and theoretical hygiene.

The only museum in this country that is specifically and solely devoted to this purpose is the one at Washington, under the control of the Medical Department of the Navy. It is stated, however, that this is not as well accoutred as it might be, and at present is not used for the purpose of teaching.

The tendency of modern medicine is toward prophylaxis, there are only a few specifics, and, given most diseases with a good start, our treatment is chiefly expectant. If we wish to prevent suffering in this world, we must banish disease, not cure it. This sanitary art may be summed up in a few words—the prevention of bacterial growth in places where it may be hurtful to men. In gross terms it is the prevention of the accumulation of what is generically called dirt.

The bacterial origin of only a few diseases has been demonstrated beyond peradventure; there remain many infectious diseases of which the specific germ has not been detected or recognized. Whether recognized or detected, it is acceded to by the most strictly practical man that these diseases are propagated and increased in virulence by the accumulation of dirt, and that the removal of dirt will prevent the development of such diseases or stop their progress. To this some one may reply that we find the red hand of scarlet fever knocking with impartiality at the palace and the cottage gate. True enough, but wherever intelligent investigation has been instituted, it has been found that it was through carelessness of some description it gained entrance. Of course an infectious disease propagated from some other source may find its way into the most scrupulously clean homes and number its victims before it yields to attack; but it is not so fierce as it would be if filth prevailed. A single chink in a sewer pipe underneath the cellar of an immaculate house may be the means of depopulating that house. When the infection has once entered, the duty of the medical man can only be that of a watchman and a nurse. The fact that there are no longer any such fearful epidemics of infectious diseases now as formerly is proof that the efforts in this direction have not been in vain. Sanitation has chiefly worked this change, although we must not forget the beneficent effect of vaccination. This has unquestionably done the most toward lessening the virulence of variola, though one is forced to see that quarantine and disinfection have largely assisted at least in preventing its spread.

The percentage of mortality from probably bacterial diseases, (by this term we mean not only the exanthemata, but also phthisis, diarrhœal diseases, etc.), is perhaps greater than that of all other diseases combined. Death from direct trauma or shock is of course excluded from the list of diseases, but death from surgical infection may properly be classed under the heading of those of bacterial origin.

In this glorious and gigantic country, numbering over 60,000,000 inhabitants there is not an institution fully equipped and devoted to the teaching of practical hygiene. Other countries are far ahead of us in this matter. Our medical colleges are doing something in the direction of benefit by teaching young men bacteriology and the science of hygiene. But physicians do not go around with architects and plumbers; nor if they did, is it probable that they would be of much assistance with their abstract knowledge of bacteriological science. In so far as housebuilding is concerned, we need an institution in which *practical scientific sanitation* can be taught. These courses could easily be arranged so that they could be comprehended by the generality of master workmen at any rate. We hear a great deal of scientific plumbing in our large cities, but it needs no great experience to see that our artisans are far from experts in this matter. Our households are our citadels of love and should be made impregnable against the insidious foe that is always seeking entrance.

Why cannot a number of such institutions as already exist in Europe be built here? Nay, more. Let us not only teach the thing scientifically to physicians, but also the practical part of it to those who have the holding of our homes entrusted to them. Let us place our hope and trust in the plumber and the architect, and call in the physician when once the enemy has stolen in.

We heartily commend the sentiments of the *Sanitary Engineer* and sincerely hope that the matter will be agitated till we can at least hold our heads even with the nations of Europe.

WE are glad to welcome the return to our correspondence columns of Dr. Edward Warren-Bey. His long silence had been unexplained until we heard from him a short while since that he had been almost totally disabled for two years by a fall from his carriage. We congratulate him upon his restoration to health and our readers upon the restoration to the JOURNAL of his vigorous, interesting and instructive letters.

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ORIGINAL ARTICLES.

ARTICLE I.

Introductory Lecture,

By Lawson Tait, F.R.C.S., LL.D., etc., Professor of Gynæcology in Queens College, Birmingham.

Gentlemen :

I have to congratulate myself to-day on the fact that I appear in an absolutely unique position—the first appointed Professor of Gynæcology in any medical school in Great Britain, and I trust that the example so well set by the authorities of this college will speedily be followed in other and larger schools. I have a knowledge of the fact that in the largest medical school in the world, that to which I owe my own training, the Professor of Midwifery has been for many years desirous that his subject should be separated from the newly-arisen specialty of diseases of women and a special chair of gynæcology should be created. There are very many reasons why this policy should be extended, and some reasons can be urged against it which must be fairly met. To some of these reasons, on the one side, and on the other I propose briefly to address myself, for they bear weightily on the methods of practicing that art in which you are here to be trained. Another outcome of that training should be the learning those methods of it which shall conduce at once to the advancement of your profession, the welfare of your patients and your own success in life. If your training is to be of much use to you it must have these objects, and they must be regarded in the order in which I have placed them.

You know very well that from the earliest times the practitioner of the art of medicine has been the butt of the jester and the object of the cynic's shaft. In the primitive life of the African savage the medicine man is apt to suffer if he do not bring about the desired result; and in modern society the president of the college of physicians may be the subject of a charge that he has not understood the case if an august patient should die. Indeed, in these days of telegraphs and evening newspapers the public is carried through the whole of the episode of an emperor's illness, and the varying dexterity with which that surgeon and the other can change a throat canula is the subject of newspaper articles and the criticism of club gossip.

But with all this, when the jester is ill or when the cynic suffers, they call us in with the utmost celerity, and whilst their gratitude lasts they are profuse with their thanks and sometimes are magnanimous in their payments; meanwhile their fears are relieved, for they know very well that other help there is none save in the hands of the arts of medicine and surgery so far as they have gone. It is a strange habit of the human race, especially that part of it which speaks the English or American language, that what they really most value they mostly joke about, and no matter what they say about us when they are well, they profoundly believe that when they are ill we can do something to relieve their sufferings, something perhaps to save them from death, and they know at all times at least this: that we are very like the rest of the race—for the most part honest and benevolent, extremely anxious to do the best we can for our patients, for that is the only way in which we can secure our own welfare. We are in fact a great body of citizen specialists, concerned with that interest of the community which embraces all that conduces to health and the prevention and cure of disease, just as the soldier is a citizen specialist concerned with all things affecting the protection and honor of his country; the politician, a specialist, who engages himself in securing its best methods of government; and the pastor, one who earnestly labors for its moral elevation. In every one of these special walks of life and in all the innumerable others, there are differences of methods and various schools of thought, each of which commands larger or smaller bodies of followers; each of these have their arguments strong to themselves and weak to the others, and their differences are often irreconciliable. But without these differences no true progress would be possible; and though in the case of every one of them we may occasionally see cause for right in the manner of their differences. In the differences themselves we can see nothing but satisfaction, for it means at least this: they are all striving for improvement, and improvement will be, must be, a necessary result.

Whatever may be said in criticism of the differences between the various schools of medical thought, still more of the pronounced differences of individual opinion between practitioners of medicine, this is certain: that within the realms of our art lies all that is known concerning the physical sufferings of humanity and all that can be made out for their relief. The very fact that we are all individually concerned to do the very best we can for those who are placed under our care involves the conclusion that we are collectively concerned to do all we can to advance the art we practice. That we all more or less fail to achieve what we desire is due to the fact that we are human, and fail humanly, just as soldiers and politicians and even theologians occasionally fail. That the art of medicine is still imperfect is quite as true as that warfare is yet uncertain, and that politics seem pretty much, even yet, a game more of chance than skill, and that the very fundamental principles of theology seems yet to admit of the widest possible difference of opinion. None of these important and special divisions of human labor are yet one bit nearer perfection than is medicine or surgery, and I doubt if any of them is so progressive as either of the sister arts we have to tend and study in this building. That which I am especially concerned with here—surgery—can boast of recent triumphs as great, I venture to think, far greater than either the arts of warfare or politics, or even the science of religion itself. Certainly my own special department—gynæcology and abdominal surgery—has a record of advance in recent times which reads more like a fairy tale than matter-of-fact possibility.

For most of the great changes which effect what we can see of the earth we have to go to very simple causes. I doubt very much if any influence which has altered the earth's crust is so potent as that very simple fact that pure water absorbs carbonic acid gas, and that water so charged dissolves lime and gives it up again. Nothing has changed the earth's surface so much as the simple, never-tiring work of the earthworm. So an immense impetus to the advancement of medicine and surgery has been given by the facility of locomotion afforded by the introduction of railways. They have altered everything, and they have very much altered the practice of our art.

The one great argument which may be urged and has been urged against the creating a chair such as I have now the honor to occupy, is that it is a recognition or a development of specialism—a word which conveys a sense of horror to the minds of some well meaning people whom I think sadly misguided.

Let us go back for a moment to the beginning of this century and contrast affairs medical as they were then in this district and as they are now. In those days there were, as there are now, general practitioners and specialists, though the varying distinctions between them were not as well deserved then as now. The chance of specialism came upon our profession with the charter granted to the College of Physicians, and that to the Barber Surgeons by the 8th Henry. The apothecary was the general practitioner, and the physician was called in because it was thought he could give some special opinion—which he rarely could. What he gave was some specially complex prescription. The surgeon was called in because it was thought he could perform some special operative service, which, so far as we can find, had better never have been attempted. Time rolled on and the survival of this arrangement at the beginning of this century was found in the fact that in our country towns, like Lichfield, where Erasmus Darwin commanded the whole of the central district, Stafford and Stratford-on-Avon had their consulting physicians. But with the railway impetus everything moved on, and a newer and more scientific division of labor became necessary. The first specialty to be developed was that of ophthalmic surgery, and in the creation of this Birmingham had a remarkable and most creditable share. I can almost remember in my own school the creation of an ophthalmic department, and great wonder was created by its holder—the late William Walker—electing to engage exclusively in ophthalmic practice. The hospital surgeons did not accept this with good grace at all, and even in my time an occasional eye was put out by one of the general surgeons hunting for a cataract. The physicians at that time contested the domain by adding a meagre and ignorant chapter on disease of the eye to their insufficient text-books in the practice of medicine. But the enormous advances of ophthalmic surgery, resulting from the labors of Helmholtz, Von Graefe, Donders, and others speedily put an end to their absurdities, and a well-defined specialty speedily commanded professional recognition and public confidence. Of course this was not accomplished without a struggle. I can remember twenty years ago that men in a small country hospital insisted in cutting for squint, when no muscle was at fault, and in iridectomy, to the destruction of the globe, merely because being qualified as surgeons and entrusted with hospital beds, they insisted that they ought to practice everything and be able to do everything, though there were competent and thoroughly practical ophthalmic surgeons within ten miles of them. Such proceedings would not be tolerated now, and I do not think they obtain anywhere.

The well known argument against specialism that the specialist can look at nothing except through his own lenses, that no man can be a safe practitioner for eyes unless he is conversant with everything, is one which has only a very partial application; and what of it is true is far more true of specialists than of specialism. In ancient days the village blacksmith had to make and repair a sword blade, a gun barrel, a mowing knife and a clock wheel, and for his requirements he did them all very well. But would anyone now care for a hair spring in his watch made by a village blacksmith? or a gun-barrel made—even from the valuable steel iron—forged in a country smithy? The division of labor has altered all this. But though the village blacksmith still makes gates and horseshoes, does he know less well how to handle the hot iron? or does the maker of the fine hair spring know less of the qualities of the metal he deals with? Certainly not. So does the special ophthalmic surgeon know full well the nature of the tissues he has to deal with and the processes which they have in common with the rest of the body. The specialist must always have received a thorough training in the whole of medicine and surgery, and not forgetting what he has learnt there, he must add to his knowledge a thousand minute details which the general practitioner can rarely become possessed of, and which he never can retain unless he is constantly amongst them.

You must therefore as part of your general training know something of gynæcology and abdominal surgery, not with the desire that you should all practice it, for probably not more than two or three of those who I am now addressing will find their lines of life fall in that direction. But you must know how to advise your patients and how much may be done for them ; and there are many, very many points upon which you must be really well informed concerning their specialty to prevent your getting into terrible mistakes. You must for instance know that there is such a thing as hydramnios and how to recognize it from ascetic effusion, lest you might be tempted to tap it or remove it as an ovarian tumor. Then having recognized it, what you are to do with it I must leave to your consciences, which must ever be burdened with one obligation, to do for your patients the very best that can be done, for that is your own truest interest, just as your teacher of ophthalmic surgery will tell you how to recognize acute glaucoma and will show you how to perform iridectomy. But that you should all be doing iridectomy is not desirable, for it will not be for the immediate advantage of your patients nor for your own benefit in the long run.

In fact our desire and our power is not to train up a class room full of specialists, but a set of well-trained, competent and trustworthy general practitioners, with here and there a specialist as occasion may demand and circumstances may favor.

Let me now speak more particularly of the special department with which I am concerned. Gynæcology as a specialty is of very modern growth. A few books were written in the last century on special treatment of diseases of women, but no real advance was made till late in the present century, when a group of obstetric physicians made midwifery and diseases of women a distinct department. They were looked at askance by the regular physicians, and it was a long time before they had a reasonable recognition. In fact it is only of late years that the college to which they belong has given them due honor ; and in many of the hospitals to which they are attached they are still treated as being neither fish, flesh, fowl, nor good red herring.

The greatest of these was, unquestionably, Simpson ; and so immense has been his influence in this department that it is impossible to speak of its history without constantly referring to the labors of the great Edinborough accoucheur. Indeed, I may say that for surgery generally, he has done more than anyone who has lived since the days of Ambrose Paré ; and he has left not untouched the face of medicine herself. By the introduction of anæsthetics alone Simpson has made the great abdominal operations possible. Some two or three dozen abdominal sections were made before his time, but now I do as many every month. It is useless to say that some few patients had ether given them as an anæsthetic before Simpson used chloroform—that has nothing to do with the story. It was Simpson who fought the battle of anæsthetics; and Morton and Jackson would have been soon forgotten and their inestimable boon would have been lost to the world if Simpson had not shaken it from pole to pole by his incessant advocacy of this great discovery.

Ambrose Paré made the second great advance in surgery by beating our great surgical enemy—hæmorrhage—by means of the ligature. But he left in the long ligature, and Simpson made us cut it short; and thus he scores again as the greatest improver in modern times. He found our hospital mortality appalling, and he left it reasonable. His incessant agitation has introduced many other reforms which now makes our mortality creditable; and everywhere in the art the name of this great pioneer has been cut in ineradicable letters. Like all pioneers Simpson went sadly astray, but this is essentially a part of the history of all original research. Columbus did not go straight from Queenstown to New York, as the modern excursionists can do in seven days. Hudson's journey of discovery was fatal to all concerned, but the free-traders can now follow his route with perfect safety. Simpson's experiment in abdominal surgery had ghastly results; but our safety arose all the same from his efforts in giving us anæsthetics, well-arranged hospitals and the short ligature. The steps in this history of progress will form part of what I have to say when I speak of the history of abdominal surgery.

A few words now as to the necessity of a special study of the diseases of women, and how essentially abdominal surgery comes as a sequence of such study.

I have said that up to about twenty years ago the study of diseases of women formed a sort of appendix to the work of the obstetrician, but that was before gynæcology developed the enormous operative work which now gives it such prominence. The obstetrician was not called upon to operate, and when he did ultimately attempt it the result was bad. What the explanation is I do not know, but it is the fact that no man largely engaged in midwifery practice has yet shown good results, or indeed anything but very bad results, in abdominal surgery; and I am strongly of opinion that the obstetrician and the gynæcologist should be entirely separated on this ground alone. Further the argument becomes stronger when viewed from the obstetric side of the question; for it is beyond all doubt that engaging in the work of operative surgery on the part of the accoucheur is a source of danger to his parturient patients, and he ought not to do it. This is being so fully recognized, that gradually and surely the old department of midwifery and diseases of women is splitting up into two perfectly distinct and easily separable divisions.

I need not tell you that the physical difference between men and women, simple though they apparently are, have results which are to be felt in every relation of life, and in none more than in the results of morbid processes. These results are by no means confined to the sexual organs or other organs, such as the breast, which, though not purely sexual, are so in a sort of complimentary fashion.

The professor of pathology will tell you how sex influences many relations of disease which are wholly unexpected—how, for instance, ex-ophthalmic goitre is extremely rare in men and excessive in women; how osteitis deformans is practically unknown in men and quite common in women; how it is that the hands of elderly women should be twisted about in that horrible way and the hands of men should not be so affected we cannot guess, the more that its attacks are limited to the time of life when sexual differences are decadent.

Stranger still does the enquiry become when we find increasing evidence that the diseases which we have now rescued from hopelessness and placed within the list of curable affections by the recent advances of abdominal surgery, such as abscess and tumor of the kidney and gallstones, which cannot by any stretch of imagination be regarded as sexual diseases, are far less common in men than among women. Finally, not only do the special ailments of women deserve a special study and special students by reason of their importance and the possibilities of their cure, but they do so from their increasing frequency. That all the more special ailments of women—such as ovarian and uterine tumors—are on the increase, I have no doubt whatever. To such a statement the common answer is that it is more likely that the explanation is that we can diagnose them better now , but that is not enough. Simpson could diagnose them as well as I can and he had the whole world for his clientele. He saw probably twenty people every day for one I see, yet I am sure that I see as many uterine and ovarian tumors in a month as he saw in a year. These ovarian tumors are as a rule so easy to diagnose, and the only method of treating them in olden times was to tap them and repeat the tappings till the patient died. Cases that were tapped twenty up to a hundred times constituted incidents in village and country practice not easily forgotten. I therefore ask men like the Freers of Stourbridge and the Nasons of Nuneaton, men who have known the practice of their district for half a century, if they think there is any difference in the proportion of these cases, and their answers are uniformly in the affirmative. That uterine myoma is a new and progressive disease is shown by the facts of its history in the United States. It is a perfect curse amongst the black women, who very rarely suffer from ovarian cystoma, and amongst their cousins in Africa myoma is absolutely unheard of. Thus, in at most, five generations—probably only in three—a new disease, not exanthematic and of absolutely chronic progress has made its appearance in a people otherwise relatively free from disease.

Again, if I take the small list of men who perform habitually the operation generally known as ovariotomy in this country, I get a number of these operations performed every year—about six hundred; and if I add another three hundred for the work of all the casual operators, and the average run of life for an ovarian tumor (now that we remove them easily) we get a constant population of above a thousand ovarian tumors going about. If this population was the same in 1838, we should have a great deal more of these cases than we do, for it is not difficult to estimate from my own experience that an ovarian tumor tapped up to the very end will average thirty tappings in about six years. That is to say we should have had a constant population of ovarian tumors six times as great as now we have in curing them. Six thousand ovarian tumors tapped five times a year would give thirty thousand tappings every year—a perfect impossibility from all that can be gathered from the practitioners left amongst us to tell us about it.

Still more curious is the fact that descriptions of ovarian tumors are to be found in only comparatively modern books, and they do not seem to have become matters of ordinary experience till well on in this century. With all these reasons before us we cannot, I think, wisely come to any other conclusion than that the whole realm of medicine and surgery is too wide a field to be cultivated by all with advantage to its advance. The division of labor is a principle which led inevitably to progress whenever applied to the work of man; and the experience of its application to medicine and surgery has been equally satisfactory.

ARTICLE II.

HÆMOPHILIA.

By S. C. CARSON, BESSEMER, ALA.

In the commodius hospitals, and numerous eleemosynary institutions common to our large cities, where natives of every clime afflicted with every known disease congregate, it is an every day occurrence to find cases of interest and importance; but in a sparsely settled country—where cases for years have a uniformity akin to monotony—anything out of the ordinary routine makes a profound impression. Consequently, when a practitioner has run through an experience of some three hundred cases of midwifery without any peculiarly puzzling or extraordinary departure from Nature's processes, then suddenly and unexpectedly finds himself confronted—a few hours after the delivery of a well formed and apparently healthy infant—with an uncontrollable hæmorrhage from the umbilicus he naturally feels somewhat confused; when, something over a year later, in the same family the same untoward circumstances and sad termination greet him, he is completely puzzled; when, some months after this, an abortion brings on a hæmorrhage so terrible that the mother is brought to the very borderland of death he is overwhelmed with anxiety; but when, added to all this, there is a probability of his being called within the next thirty days to attend the same most estimable lady at full term he imagines that "Ossa piled upon Pelion," is nothing to the magnitude of the responsibility devolving upon him.

Such is the unfortunate experience and predicament of your essayist, and this subject is brought before you with the purpose of gaining all the information that so able a body can impart.

Case I.—In the latter part of 1884, I was called to the "lying-in" chamber of a lady æt. about 38 years, then to be confined with her eighth child. She was of a magnificent physical formation, but of a delicate nervous organization. On two previous occasions I had attended her with the happiest results. Although her offspring were all large and well proportioned, her labors were easy and natural. She lost no unusual amount of blood on either of the four occasions that I delivered her, but her husband informed me that in her first confinement she came near dying from a fearful post-partum hæmorrhage. The present labor presented no unusual features, except it was a little tedious owing to a breech presentation. The child cried lustily, was a fine looking little fellow, perfect even to all of his extremities. The cord was tied and cut, the compress and binder put on with my own hands, and then he was given to the nurse. The mother was made comfortable and at the expiration of an hour I took my departure.

About six hours afterwards when I called to inquire after my patients, the nurse drew my attention to a large blood stain on the band. Thinking the ligature had not been drawn sufficiently, I passed a second one under the first and assured myself that every precaution had been taken against a hæmorrhage from the cord. I will make a digression just here in order to mention that just at this time there was a discussion going on in the medical world, and there were experiments being tried in the various hospitals, as to whether it is a necessity to tie the cord at all. Some contend that immediately upon the inception of the new circulation the fœtal vessel is empty; while others, reasoning from analogy, assert, that since the brute creation require simply a laceration or a tearing of the cord, the human race should need nothing more. I never learned the result of these investigations; nor have I ever been influenced by them to neglect the ligature. But to return. The mother was doing well, the child had taken the breast, its bowels and bladder had acted and it slept naturally. In two or three hours I responded to a hasty summons only to find the binder and compress perfectly saturated with blood, the little fellow cold, exsanguinous and gasping for breath. He was hastily undressed, the band thrown aside, and cold water freely applied. Close inspection disclosed the blood simply oozing through the pores of the skin just where the cord joins the abdomen. Not a particle came through the cord. It presented the appearance of a fine seive with a minute drop of blood in each mesh. Some times there would be a brief cessation, and I would gather hope as the little fellow gathered a new supply of the life fluid, but as soon as the vessels became full the hæmorrhage would recur, until, after hours of futile efforts with cold compresses, styptics and continued digital compression, its life ebbed away.

Case II.—Thirteen months after this my services were again required under similar circumstances. This time there was a vertex presentation and a perfectly normal labor. As on the previous occasion the child presented no deformity or unusual physical features. I not only inspected its general contour but I also closely examined the heart, lungs and abdominal organs. The cord was tied and cut with the most minute precautions. It was noticed that the child would neither cry nor take the breast. The bowels were moved by artificial means and the bladder was emptied voluntarily. I noticed it start suddenly from a sound slumber, with a hoarse gutteral cry accompanied by a contraction of the forearm. A little after this the undescribable exclamations and the convulsive movements became more prolonged and pronounced. Parties present were struck with the exact imitation of an hysterical scream which the mother had frequently heard during the first two months of her pregnancy.

Finally efforts at vomiting came on, and during the movements of the abdominal muscles consequent upon these efforts the blood came welling up through the pores all around the umbilicus. The extremes of heat and cold, compressed wet with Monsel's solution and bound tightly to the surface, were used. These failing I took the child into my own lap and began a systematic digital compression which continued through five or six hours. At times the bleeding would cease at this point only to be succeeded by a distressing hæmatemesis. Slowly but surely the end came.

I had considered the first case as merely one of those anomylous freaks of nature which are inexplicable, and which might never occur again ; but being now thoroughly convinced that there was some occult disease or fault of formation to be discovered, I instituted a search for it. First, I imagined there might be a cribriform or seive-like defect around the margin of the navel, but the point of a small needle failed to find an entrance. Then I concluded there might be a rupture of the umbilical vessel, but the probe, entered at the cut end of the cord and carefully guided along the walls to the extent of several inches, found everything smooth and intact. No further examination was allowed.

In passing, it is well enough to remark upon our proneness to classify every disease within that department in which we are working at the time of its occurrence. For instance, this trouble arose in a case of midwifery, and much time and labor were lost in scanning Playfair, Leishman and Cazeaux for information upon the subject with the barren result of not even an intimation that such an accident ever attended a birth. Specialists are particularly given to viewing everything with an eye single to their department, unless they belong to those who have had a large experience in general practice.

It is a good plan, when in a dilemma concerning a matter of any importance, never to let it rest until it is unravelled. Being in correspondence, at that time, with Drs. McF. Gaston, of Atlanta, and N. B. Carson, of St. Louis, both surgeons of large experience and eminence in the profession, the writer took the liberty of troubling them with a full account of the two births and the subsequent fatal hæmorrhages, and it was through their prompt and cheerfully bestowed assistance that the diagnosis of "Hæmorrhagic Diathesis" was made.

As a rule, the ordinary text-books merely touch upon the subject. Most of those that mention it are works on surgery. Why this is the case, is not altogether apparent, unless it be that the majority of instances show themselves as the result of traumatism. Ashhurst, Druit, and Bryant, devote less than a page to the subject. Erichsen is a little more satisfactory, while Gross enters much more than either into details. By far the most voluminous and instructive article on the subject that has fallen under the writer's notice is contained in Pepper's System of Medicine, Vol. III., Page 931. Numerous references are made to different medical journals in which accidents of this nature are fully reported.

Pepper defines this as an "hereditary or congenital fault of constitution, characterized by a tendency to bleeding, spontaneous or traumatic, and often associated with swelling of the joints."

The pathology of this disease is involved in such doubt or obscurity that it is almost useless to mention it.

Your reporter has neither the time, inclination, nor ability to wander into the realms of speculation and weave an imaginary fabric, made attractive and fascinating solely by the glittering threads of theory; still, before consulting authorities, he had merely shadowed, as it were, within his own mind, the outlines of an idea, without ever giving it a definite shape, as follows: That a woman of fine physique and constitution, but of an exquisitely nervous organization, after repeated pregnancies and births of sound, healthy children, towards the close of her child-bearing period, especially when concomitant harassing, mental and physical troubles and discomforts during the tedious months of gestation are present to augment the exhaustion of labor, could have her nervous system so shattered, unstrung, and discordant as to fail in performing the important function of stimulating the muscular coat of the arteries and the capillaries to a proper contractility, and thereby impart a cachexia or dyscrasia to the child *in utero*, and there originate *de novo*, a hæmophilia which will be transmitted by heredity through coming generations. The thought is crudely stated, and it may be altogether without scientific foundation; but, within the last few years, careful microscopical examination of the tissues and blood-vessels of bleeders has been made by Kidd, who found a "degeneration of the muscle fibres of the middle coat of the arteries;" while Loomis claims this diathesis depends upon "a deficient capillary innervation with resulting dilatation." He further says: "The neurotic theory is favored by the frequency of nervous disorders in bleeders, and the fact that neurotic remedies exert the greatest control." Pepper and Gross both mention the want of coagulability of the blood as a cause. Such position seems untenable. This condition of the blood, were it to exist, would doubtless render a hæmorrhage uncontrollable after it once began. But how could it give a *tendency* to bleeding, when normal blood has no disposition to coagulate within the vessels. Besides, it is sufficiently evident that the exuded blood *does* form clots, both spontaneously and as the result of the application of hæmortoics. Other authors speak of a "fragility of the vessels;" while still others attribute it to an *excess* of blood. *Heredity* will, in the majority of cases, contribute the cause of this peculiar diathesis; but that it can originate in a family when the previous children were sound, is amply established. In fact, only the last offspring from a prolific family are prone to be affected. The remarkable fertility of free bleeders has attracted the attention of observers; and there is no disease with so marked a tendency to transmission. While it is transmitted through the females—that is, from mother to son, and not from father to son—males are much oftener afflicted than females, probably in the proportion of 12 to 1. The daughter of a bleeder, though free from any disposition in herself, is almost certain to transmit the tendency to her sons. "The age at which the bleeding tendency first appears, was determined by Graudidier in 113 cases, as follows: In 63 during the first year; in 17 during the second; and up to the end of the second year, 93. It is rare for the first manifestation to occur after the twelfth year, and there was only one case in which the bleeding first occurred after the fifteenth year." There seems to be no particular constitution or temperament that will indicate to the medical practitioner this proneness to hæmorrhage. "Families in all conditions of life are affected." The late Prince Leopold was a sufferer. The first indication, perhaps, is an uncontrollable hæmorrhage from some slight accident or operation; or, there may be a spontaneous bleeding that will present insuperable barriers to its arrest. Legg groups the symptoms under three divisions, viz.: External bleedings, spontaneous and traumatic; interstitial bleeding, petechiæ and ecchymoses; and the joint affections. The manner of the bleeding is a capillary oozing. Gross speaks of several fatal accidents under his own observation from trivial causes, and mentions one family where seventeen out of eighteen bled to death.

The prognosis is decidedly unfavorable. The younger the subject the worse the outlook; worse in a boy than in a girl.

It is a question of serious doubt whether treatment makes any impression upon the disease; at any rate in infants. When, by reason of various means or devices, the hæmorrhage is checked in one place, it appears in another. As Dr. Gaston states in his letter, ergot is the physiological remedy for the purpose of contracting the capillaries; but I infer from his tone that his experience has taught him that nothing will arrest the flow. In one case he transfixed the navel with needles, and wrapped a ligature around these with no good result. Dr. Fred. W. Parkham, of New Orleans, adopted the same procedure in a case which occurred in the Charity Hospital. Different authors specify different drugs as being indicated. Gross speaks favorably of the tannate of iron. Legg suggests perchloride of iron. Of course, transfusion would suggest itself during the hæmorrhage, and iron and cod-liver oil after attacks. Pepper says "that prophylaxis is all-important." "The members of a bleeder family should never be subjected to any operation however trivial, except when life is in jeopardy." The extraction of a tooth should be absolutely prohibited. "Daughters of bleeders should not marry."

A temperate, equable climate; an active, out-door life; horseback and buggy-riding and freedom from mental worry and disturbances together with a good tonic medication, are the directions upon which the subject of this sketch is fast approaching her confinement.

ARTICLE III.

CASE OF RUPTURED DIAPHRAGM AND DEATH BY APNOEA. THE STOMACH AND SPLEEN OCCUPYING THE LEFT THORAX.

By N. W. LEIGHTON.

On Sunday, March 4, 1866, I was called in haste to see Mrs. N., æt 28 years, who was suffering with severe pain in the epigastrium, nausea and dyspnœa. There was an expression of countenance indicating pain and fear. I learned that she was in her usual health in the morning; had been to church; and had taken her dinner two or three hours prior to my visit—a part of which consisted of fried scollops. I came hastily to the conclusion that she was suffering with colic in consequence of embarrassed digestion, and preparing a half dram of powdered ipecacuanha in a goblet of warm water, I directed her to swallow it at once. She said that she could not swallow. I said that she could, and that she would be relieved in a short time. She then made several attempts, only taking one or two swallows at a time and spitting it out. Thinking that the taste of the ipecacuanha aggravated the nausea and increased the difficulty of swallowing, I tried soda in warm water, and peppermint, and clear warm water, all without avail. Believing that the dyspnœa was due to gaseous distention of the stomach, and the dysphagia and other nervous manifestations to hysteria, I left my patient, urging the friends to persist in having her try to swallow a stronger mixture of ipecacuanha, and promising to return in half an hour. I returned, possibly in less time than specified, prepared to administer ether for the relief of the pain and to induce emesis ; but my patient was dead. Naturally enough I was astonished, and the friends were indignant. No other member of the family had suffered by partaking of the scollops. I demanded a post-mortem examination, and declined to give a certificate without it. By the persuasion of one relative whose better judgment prevailed, and the advice of the family physician—Dr. C. N. Schapps—the examination was granted without the intervention of a coroner, and was performed about twenty-one hours after death. I found an opening in the diaphragm, on the left side, through which the stomach and the spleen had entered the left thoracic cavity. The stomach was distended, filling the entire cavity, except the spaces occupied by the spleen below and the left lung above, where it was compressed into a mass about the size of a large orange. The heart was pushed to the right of the median line. The walls of the stomach were tense by the pressure of gas within them. The stomach also contained the partially digested meal taken a few hours before her death. Other organs of the thorax and abdomen appeared healthy. The opening through the diaphragm was sufficient to admit my four fingers into it, side by side. The edges of the ruptured muscle were thickened and rounded, as if healed a long time before the fatal occurrence ; and the hypertrophied margins showed the effort of Nature to compensate the best she could without the aid of the surgeon. Information was elicited from her husband after the examination that she had a very severe labor about seven years before, and that she " felt something give way " during the last labor pains ; that she had had numerous attacks of colic and of indigestion with nausea, but was never able to vomit. He also told me—as the patient herself that she never vomited ; but the statement was given no credence during my short effort to relieve her suffering.

Pregnancy did not occur after the parturition referred to. It was the conclusion of Dr. John A. Brady and the examiner that the rupture occurred during parturition ; that it had not been the source of any great inconvenience, except the inability to evacuate the stomach when nausea and embarrassed digestion required it ; that during the fatal attack, the stomach, by its muscular movements or by its distention with gas, was forced through the ruptured diaphragm, and continued to expand till it forced the diaphragm downward, dragged the spleen into the thoracic cavity, pushed the heart to the right of the median line, and expelled all the air from the left lung. To what extent the displacement of the organs had taken place at death I do not know, but have no doubt about the entrance of the stomach into the thorax after her last dinner and before her death.

The author of this is aware that the case should have been reported long ago, but having lost a part of his notes which were taken at the time, he had hoped some time to find them among other papers, instead of relying in part upon his memory, although the narrow escape of losing his patient under ether makes his recollection of the case quite vivid. We believe that post-mortem examinations should be made in all cases of death after the administration of anæsthetics or anodynes.

SELECTIONS.

REMARKS ON THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE BRAIN. Delivered at a meeting of the Worcestershire and Herefordshire, Bath and Bristol and Gloucestershire Branches. By J. Hughlings Jackson, M. D., F. R. C. P., LL. D., F. R. S., Physician to the Hospital for Epilepsy and Paralysis; and Physician to the London Hospital.

[*Continued from page* 261.]

I next speak in some detail of the methodical investigation of particular cases of brain disease, and shall deal with questions of treatment at several stages of the inquiry. The clinical problem of what we call *a* disease is threefold—anatomical, seat of lesion; physiological, functional nature of lesion; pathological, disorder of the nutritive process. The division into stucture, function and nutrition, is, of course, arbitrary,. but it is a convenient one. I may now say, once for all, that I use the term functional in its meaning as the adjective of the word function. I do not believe that there can be any kind of symptoms without abnormal changes, however slight they may be in some cases (see an able paper by Dr. Allchin, *Westminster Hospital Reports*, vol. ii). Hence, when speaking of cerebral and cerebellar tumors, and other masses, I used the expression *gross* organic disease, not doubting that there is some organic change, however minute it

NOTE.—On page 256, last month's issue, sixteenth line from bottom, omit "*an explanation of difficult problems.*"

may be, and, as yet undiscoverable, even in epilepsy proper, in chorea, in neuralgia, etc. There are two diametrically opposite kinds of functional changes. 1. Degrees from slight defect to loss of function. 2. Degrees from slight to excessive exaltation of function. The former, negative state of function, exists in cases of paralysis, the latter, positive (super-positive) state of function in cases of epilepsy, chorea, tetanus, etc. I never use the expression "disorder of function," but speak of degrees of negative functional states, and of degrees of states of over-function. The two may co-exist. Some elements of the set of motor nervous arrangements representing a muscular region may have lost function, whilst other elements of the same set may be in over-function. For example we find not rarely persisting hemiplegia and occasional convulsion of the muscular region paralyzed.

One advantage of the scheme of investigation by the triple division is that we learn by it where our knowledge is deficient. Indeed, of some cases of nervous disease it would be commonly said that we know symptoms only. The scheme enables us to separate definitely what we know from what we only suppose. In chorea we know that there is the second kind of functional lesion; at any rate, it is an irresistible inference that the movements depend on unduly high instability of nerve cells.* But we do not know the seat of that lesion, nor the pathological processes leading to it. On the anatomy and pathology of chorea all of us have hypotheses only. My speculation is that, anatomically, the lesion is of some convolutions of the motor area, and that the pathology in most cases is plugging of arterioles.

In illustration of the triple method I shall take a case in which our knowledge is fairly complete, an ordinary case of hemiplegia. Before I do this I will once more speak of types. As to range, I make two types of hemiplegia. In most cases the arm suffers more than the leg, in some the leg more than the arm. The division arm-type and leg-type is of practical importance. Were I obliged to be paralyzed of the left side I should prefer the ordinary variety of hemiplegia, in which the arm suffers more than the leg, as I could do indifferently well without the use of the *left* arm, and could get about if the leg were only slightly paralyzed. If the paralysis were to be of the right side, I would far rather that the leg suffered more than the arm, particularly because I should, the cerebral lesion being farther back, have little or no defect of speech.

Taking for illustration the arm-type of hemiplegia, we may conveniently make three degrees of it. 1. Paralysis of the face, tongue, arm, and leg. 2. Greater paralysis of these parts, and also turning of the head and eyes from the side of the body paralyzed. 3. Universal powerlessness (strictly not a degree of, but one beyond, hemiplegia). I pass over the third degree, as the situation is too complex for illustration. I remark of the second that the additional symptoms, so to call them, betoken a grave lesion. I speak of the first degree only when illustrating the triple method of investigation.

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* There is, however, with the over-development of some movements loss of other movements of the same muscles; the two opposite functional lesions, the inference is, co-exist in chorea. In some cases the paralysis (that is, loss of movements) preponderates (see Gower's *Diseases of the Nervous System*, vol. ii, p. 554, on "Paralytic Chorea."

From the external region affected we infer, let us say, that there is a lesion of the motor, anterior, part of the internal capsule; that is the anatomical part of the clinical problem. Next, since the phenomena in the muscular region affected are negative, paralytic, we conclude that the function of fibres of the internal capsule is lost; most often they are destroyed. This is the physiological part of the clinical problem.

It may seem a pedantic refinement to distinguish between loss of function and pathological process in cases where, for example, a clot has destroyed fibres, where the function and the fibres are gone together by one blow. Not so, since the hemiplegia depends on loss of function, *however produced*—by softening, by clot, by tumor, or by mechanical injury; we may be sure of the abnormal *physiological* state, loss of function, and yet have to wait for the necropsy to tell us the nature of the *pathological* process which produced it. Again, although in most cases of hemiplegia there is destruction of fibres, there is in the epileptic hemiplegia of Dr. Todd—post-epileptiform hemiplegia, I call it—(temporary) loss of function of fibres and no destruction of them. As some would put it, hemiplegia is "only a symptom"; but it is a symptom always signifying the abnormal physiological state, loss of function, although the pathological processes effecting that loss are various. When we come to consider the other kind of functional change—exaltation of function, hyper-physiological states—the distinction between abnormal (crude) physiolgical states, and the pathological processes producing them is of supreme importance; hence, one reason for insisting now on the distinction in simple cases between loss of function and the pathological processes producing it.

So far we have dealt expressly with but two elements, anatomical and physiological, of the three-fold clinical problem; we have not yet, except incidentally, said anything on the most medically important element, the pathological. Whilst anatomically we say of a case of hemiplegia that the legion is (1) of the internal capsule, that (2) physiologically it is a negative functional state, we may be able to complete the clinical problem by concluding that (3) the pathology is cerebral hæmorrhage. I speak first of what I may call the rough and immediate pathology of hemiplegia. I say rough and immediate because, for example, to speak of the pathology of a case of hemiplegia as being cerebral hæmorrhage is to speak very inadequately. Destruction of fibres by clot is a quasi-traumatic lesion; cerebral hæmorrhage is often but an incident—a very calamitous one—in an exceedingly wide, indeed universal, pathology. We have two kinds of evidence bearing on the "rough pathology" of hemiplegia: (A) mode of onset; (B) the patient's general pathology. I can only consider some modes of onset.

(1) If the paralysis begins very locally—say in the hand—increases

in degree and in range very slowly, day by day and week by week, there is great likelihood of tumor of the opposite cerebral hemisphere. I confess that I have twice been wrong in the diagnosis of cerebral tumor from "slow hemiplegia." If with such hemiplegia there be also double optic neuritis, we may be confident of tumor or some other kind of adventitious product. Again, if there be no severe headache and no optic neuritis with this "slow hemiplegia," yet, if there be with it gradual and "even" degradation of mind, there is most probably a large tumor (or other mass) deep in the white substance of the opposite cerebral hemisphere. (I should not in such a case advise operation.) In young children, when the adventitious product in one cerebral hemisphere is very large, the head gets bigger, the sutures widening, as happens also in some cases of tumor of the middle lobe of the cerebellum; in the former there is some hemiplegia, in the latter reeling gait. When the motor symptoms are little marked, and when the child is young and very ill or indocile, the differential diagnosis is far from easy.

I should in early stages of "slow hemiplegia" treat for syphilis. But I wish to say very prominently that hemiplegia so coming on is, in my experience, exceedingly rarely owing to syphilis. In an article, "The Syphilitic Affections of the Nervous System," *Journal of Mental Science*, July, 1875, (also *Medical Times and Gazette*, May 23d, 1868, p. 551, *et seq.*), I put down "slow hemiplegia" as one of the three varieties of "syphilitic hemiplegia;" but since that time I have not seen a single case of such hemiplegia owing to a syphilitic tumor—of course I speak of cases completed by necropsy. Two other very common types or varieties of "syphilitic hemiplegia" will be spoken of further on.

(2) If the hemiplegia is found immediately after an epileptiform seizure which began very locally—say in one thumb—I should conclude that there was disease of some part of the cortex in the Rolandic region of the opposite side of the brain.* Of course the practical question in diagnosis here is the cause of the fit of which the hemiplegia is a consequence; it is a post-epileptiform hemiplegia. In such cases the disease is most often tumor; it certainly is not always so; there may be plugging of cortic arteries. I say nothing of guessing, but submit that we can only confidently *diagnose* tumor as the cause of epileptiform seizures if there be also double optic neuritis. I have not yet seen a case followed by necropsy, the two symptoms—the epileptiform seizure and double optic neuritis—co-existing, in which I did not find cerebral tumor.

To ascertain whether epileptiform seizures do or do not depend on cortical tumor is important with regard to surgical interference. Were I subject to frequent epileptiform seizures always beginning in the *left* thumb, I would have the "discharging lesion" cut out, even if I could know that there was no tumor as an inducing cause of it; if tumor were found, of course that should be cut out too. In the case mentioned (page 63, operation by Horsley) I advised operation, although I could not tell whether or not that patient's fits depended on tumor. Enough of the cortex should, for cure of the fits, be cut out to produce considerable paralysis of the part in which the convulsion begins. I spoke of fits beginning left-sidedly; on account of the "speech centre," operations on the left cerebral hemisphere are more serious than operations on the right.

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* Beevor and Horsley find that, in the monkey, the particular part of the cerebral cortex where the thumb, which has a wide representation in the cortex, is *most especially* represented is about the junction of the lowest and middle thirds of the ascending parietal convolution.

To return to the hemiplegia. Although post-epileptiform hemiplegia so often depends on tumor, it is transitory; it depends very indirectly on the tumor. We now come to some further considerations also of practical value.

The tumor causing epileptiform fits is sometimes syphilitic; the sequent hemiplegia is one type or variety of "syphilitic hemiplegia." But to say that syphilis (a syphilitic tumor, gumma, of the cortex) "caused the hemiplegia," is to speak very vaguely. Here we have a most excellent example of the indirect way in which syphilis "causes" nervous symptoms. It is a long cry from syphilis to this variety of what we call "syphilitic hemiplegia;" let us look at the stages from syphilis to the paralysis. First there is slowly formed a syphlitic tumor; next this *causes the cause* (the direct cause) of the fits. By some process, there is produced high instability of cells near the growth (presumably in the order from smallest towards largest) a persisting local condition which, although produced by, is secondary to, the syphilitic tumor and is itself not syphilitic. This secondary and non-syphilitic change has become independent of the syphilitic tumor, being established it is autonomous; it is then an energetic "hyper-physiological parasite;" there is what I call it a "discharging lesion" or "physiological fulminate," or, sometimes using Horsley's term, an "epileptogenous focus." In still other words there is produced a functional change, in the proper sense of the term functional, one of high instability of nerve cells. This change is not a pathological one, but is an hyper-physiological state, a crude physiological state: it is the *result* of a pathological process entailing, no doubt, destruction of some cells, but yet increased nutrition (presumably of an inferior kind), and consequently unduly high tension and instability of others. There is, I imagine, an encephalitis provoked by the syphilitic tumor, not in its individual character as a *syphilitic* product, nor even in its more general character as a tumor, but in its most general character, that of a "foreign body." So to speak between the "foreign body" and the high instability of cells making up the "discharging lesion," comes the active pathological process, a local encephalitis. Putting part of the foregoing otherwise: the secondary change induced is the same, whether the tumor be a glioma or a syphiloma.* So then the change on which the fits directly depend is *post*-syphilitic or, if we take into account the disordered nutritive process, which I imagine to be a local and limited encephalitis, it is *post-post*-syphilitic. The hemiplegia, on any hypothesis as to the exact nature of the negative central change immediately answering to it, is a still more indirect result of syphilis; I imagine, essentially adopting Todd and Robertson's hypothesis, that it depends directly on loss of function of fibres of the pyramidal tract: they being, it is suggested, exhausted by the excessive discharge in the preceding fit. At any rate there is some negative central change.* Here we have in sequence the two opposite kinds of functional, abnormal physiological, change; there is high instability of cells. over-function, and following sudden, etc., discharge of those cells, there is temporary loss of function of nerve fibres. Neglecting the hypothetical encephalitis, this type of "syphilitic hemiplegia" is "caused by syphilis" in a triply indirect way.

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* Illustrating by another secondary change; optic neuritis from syphilis not syphilitic optic neuritis; any sort of tumor or mass in the brain produces just the same kind of change in the optic discs as any other does.

We have two kinds of treatment for this variety of "syphilitic hemiplegia;" treatment for syphilis, and treatment, for the most part empirical (bromides), for the fits; the post-epileptiform hemiplegia (or, after partial fits, monoplegia) requires no treatment.

3. If the hemiplegia comes on deliberately, say in half an hour, or if the patient tells us that he was paralyzed on getting up in the morning—hemiplegia without defect of consciousness—the presumption is for local softening from plugging of the middle cerebral artery, or more likely of some branch of that vessel.

4. If the hemiplegia comes on rapidly with loss of consciousness, or if coma soon follows a deliberate onset, the presumption is for cerebral hæmorrhage.

We have, however, to bear in mind that 3 and 4 are only empirical rules. Strictly, we should speak of degrees of "gravity" of lesions, using that term to include both quantity destroyed and rate of destruction. Comparatively slow blocking of the main trunk of the middle cerebral artery (as in a third type of "syphilitic hemiplegia" I have yet to remark on) may be unattended by what would be commonly called *loss* of consciousness, whereas sudden blocking of that main trunk by an embolus might entail temporary coma. There are other qualifications to the Rules 3 and 4. We have to rely upon the patient's general pathology. I give but one illustration. If the patient have atheromatous arteries, hypertrophy of the left ventricle, and chronic renal disease, we conclude for clot, in whatever way the hemiplegia came on, and whether it be slight and transient or perfect and permanent.

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* I suppose that the negative post-epileptiform change answering to the paralysis is above the anterior horns (except perhaps for exhaustion of inhibitory centres, Gowers's), where there are exaggerated knee-jerk and foot clonus. I published a case of this kind (*Medical Times and Gazette*, February 12th, 1881, On a Case of Temporary Left Hemiplegia, with Foot Clonus and Exaggerated Knee Phenomenon, after an epileptiform Seizure Beginning in the Left Foot). The estimation of the different conditions of the "deep reflexes" after epileptiform and epileptic fits is very important. (See a very important paper by Beevor. *Brain*, 1882, On Knee-jerk and Foot Clonus, Plantar Reflex and Conjugate Deviation of the Eye, after Epileptic Fits.) When there is exaggeration of the "deep reflexes," there is a degree of functional change not spoken of in the text; certain anterior horns are in over-function from, I think, loss of control. This degree of functional change is not the result, not the direct result, of any pathological process; it ought to be most carefully distinguished from the degree constituting a "discharging lesion," or we shall misinterpret some symptomatic conditions, post-epileptic states (mania, etc.), for example.

Omitting much, I make two further remarks on diagnosis between clot and softening. If a patient have double, or even uniocular, optic neuritis (the latter is very rare in physicians' practice), the hemiplegia coming on rapidly with, or even without, loss of consciousness, is probably owing to hæmorrhage from a vascular tumor of the opposite cerebral hemisphere.* Here we must, however, exclude Bright's disease, it being remembered that sometimes with Bright's disease, and without intra-cranial tumor, we have optic neuritis indistinguishable from that which tumor most often produces. Certain well-known abnormal changes in the fundi in Bright's disease are not always "characteristic," as we used very many years ago to say, of that disease. Again, suppose a patient, say a young patient, has cardiac valvular disease, then, if hemiplegia comes on suddenly with deep loss of consciousness, we must not be sure that there is embolism; there may be cerebral hæmorrhage from rupture of a large aneurism of some branch of the middle cerebral artery. I do not know how to distinguish between the two possibilities.

To shorten my subject, I shall now arbitrarily suppose that the lesion causing the hemiplegia is local cerebral softening from plugging of an artery. Some general remarks are needed before going further. Cerebral softening is always local; and (excluding softening about tumors and other obviously exceptional cases), it is localised by vessels, mostly arteries, and, as a matter of fact, the middle cerebral artery, or some branch of it, is nearly always the vessel plugged; thus, the two great symptoms of softening of the brain are hemiplegia and aphasia, sometimes both together. There is no such disease as "general softening" of the brain. Some cases so-called are cases of cerebral atrophy, of general paresis, or are cases of cerebral tumor. Reasserting that softening of the brain is local, and that it is practically an affair of plugging of cerebral arteries, the next remark is that there are two processes of plugging—thrombotic and embolic. In the former, the vessel is "crusted up," because the artery, mostly atheromatous, but sometimes the subject of a syphilitic change, is roughened in its interior, or narrowed, or both; here the artery is in *fault*. In embolism the artery may be, and often is, quite healthy, *innocent*, and is corked up by something coming from a distance, in most cases, from the valves of the heart. No doubt there is sometimes partial occlusion by an embolus, complete closure of the artery being affected by superinduced thrombosis. We sometimes hear of "extension of softening." I know of none, except possibly by plugging of other arterial branches, supplying parts near the already softened part; this is not, however, properly speaking, *extension* of, but additional softening. It is common enough to find general mental deterioration slowly following a local cerebral lesion, clot, or softening, which has produced hemiplegia. The patient suffers from defect of memory, and is incapable of sustained intellectual exertion. He is "more emotional" (really there is here loss or defect of the highest [" finest "] with increased manifestation of the lower [" coarser "] emotions). But I presume that the intellectual and emotional deterioration are owing, not to softening nor to extension of softening, but to widespread partial atrophy of convolutions.

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* I have spoken, it will be seen, of three very different ways in which hemiplegia may be associated with tumor of the cerebral hemisphere, (1) slow hemiplegia from gradual destruction, (2) post-epileptiform hemiplegia, and (3) hemiplegia by hæmorrhage from a tumor.

It is needless, for my present narrow purpose, to speak of the differential diagnosis between thrombosis and embolism as a cause of the local softening which produces hemiplegia. The commonest condition for the thrombotic process is arterial atheroma. I wish to speak of a rarer cause of thrombosis of the middle cerebral artery—of a third type or variety of "syphilitic hemiplegia." We shall see another way in which syphilis produces nervous symptoms indirectly.

I do not deny that syphilis may "attack" proper nervous elements, nerve cells, and fibres of nervous organs directly, or be an important factor towards their degeneration. I say nothing here on that question. In cases of "syphilitic nervous affections" of which we *know* the morbid anatomy, the direct "attack" is upon non-nervous ingredients of nervous organs. When there is a syphilitic neuroma, as it is often called, say the trunk of the third nerve is affected, the action of syphilis on nervous elements is indirect, but yet most nearly direct; an overgrowth of connective tissue there and then squeezes nerve fibres. The process by which syphilis produces the type or variety of "syphilitic hemiplegia" I am about to remark on is far more indirect, although not so indirect as is the one whereby the type recently considered (post-epileptiform hemiplegia) is produced. There is first slowly established syphilitic disease of the middle cerebral artery or of some branch of it; so far all may go indifferently well. But the diseased artery becoming narrowed, something happens which is not syphilitic. Thrombosis occurs, and thereupon ensues local softening of the brain, causing hemiplegia of deliberate onset, without loss of consciousness, but, perhaps, if the main trunk be plugged, with considerable stupor. I fear that it is not always realized that in this type of "syphilitic hemiplegia" there is softening of the brain; that there is essentially the same change (I have not yet seen red softening in such cases) as that which occurs when an atheromatous artery is thrombosed, or when a healthy one is corked up by an embolus. The real nervous change, the one on which the paralysis in this type of "syphilitic hemiplegia" *directly* depends is not a syphilitic change at all; it is post-syphilitic. I have assumed that the arterial disease is syphilitic, have spoken as if we had had the necropsy first. I must next speak generally of the diagnosis of "syphilitic affections of the nervous system," in order methodically to answer the question: "Is this patient's hemiplegia syphilitic?"

It would be wasting time to speak of such evidence as clear signs of syphilis in visible parts of the patient's body; this is, of course, the best kind of evidence, and no one is likely to ignore it. There is another kind of evidence which is of great value in diagnosis when that just spoken of is not to be had. I must premise that the hemiplegia itself, its kind, degree, and mode of onset do not help us. I submit three dicta on syphilitic nervous affections: (1) *No single nervous symptom is characteristic of syphilis.* (2) *It is the disorderly grouping (random association) of certain nervous symptoms, or the disorderly or random succession of certain nervous symptoms which is most characteristic of syphilis.* The third dictum, *that syphilis produces nervous symptoms indirectly*, has been insisted on when dealing with the two types of "syphilitic hemiplegia." I will give but one illustration of a medley of symptoms often pointing to syphilis. If a man have paralysis of parts supplied by one third nerve and hemiplegia of the *same* side, there are certainly two lesions, and there is in that "random association" very strong empirical evidence of syphilis. I now speak of treatment of "syphilitic hemiplegia." We must take a realistic view of the situation. Although it is, for many clinical purposes, convenient to use the term "syphilitic hemiplegia," it would be monstrous to think of a case of hemiplegia as "caused by a syphilis," without tacit analysis of the real state of things in each case.

The third type of syphilitic hemiplegia is for direct treatment of the paralysis itself, a case of local cerebral softening, a non-syphilitic change, although produced by thrombosis of a *syphilitically* diseased artery. What will drugs do towards ridding the patient of his paralysis? Nothing. No drugs can do anything whatever, good or bad, for cerebral softening; softened brain is not brain at all, it is dirt in the brain. More generally, he who is treating, by drugs, hemiplegia owing to softening, however produced, or to clot, is treating a hole in the brain. Even supposing that vigorous anti-syphilitic treatment had swept away all syphilitic changes from every part of the patient's body, it would have done nothing for the *post-syphilitic change*, the softening. And if we had drugs which could dissipate the plug in the vessel (I know of none), they would have to do it with marvellous quickness, or the nerve tissue would be dead by starvation before circulation was re-established. And yet, without any inconsistency, I treat actively by mercurials and iodides in early stages of the variety of "syphilitic hemiplegia" under remark; for there is a reasonable probability that other cerebral arteries may be syphilitically diseased, and, by acting on them in early stages of syphilitic growth, we may obviate plugging of them and thus prevent other local cerebral softenings. We must bear in mind that many syphilitic diseases of the nervous system are post-syphilitic *in time*. It is only in recent syphilitic changes most nearly directly affecting nervous elements, as when nerve trunks are diseased, that we can hope for very happy results. I imagine that most cortical gummata are well established ("firmly rooted") before they produce serious symptoms in their character of "foreign bodies;"

hence the importance of active treatment of headaches in the syphilitic, especially if the pain be of one side of the head. There is a fallacy as to the effects of treatment of the third type of "syphilitic hemiplegia" to be now pointed out.

It may be said that, as a matter of fact, some of the patients who present this type of "syphilitic hemiplegia" get rid of their paralysis on treatment by mercury and iodides. To that I can testify, but I submit that our drugs do not cure them. Why, then, does the patient get well? Not from roundabout supply of blood by anastomosing vessels, to the part of which the proper artery is blocked, for the central branches of the middle cerebral artery have no, or next to no, anastomosis; the boycotting is effectual. Nor will it do to invoke shrinking or abrogation of the plug; that would occur too late. The *fact* is that patients recover from hemiplegia when the destruction, which caused that paralysis, remains, provided the lesion be limited in extent. For after such recoveries we may find when, later on, the patient dies from some non-cerebral disease, that a small part of the brain has been annihilated, there is a hole where nervous elements once were.* Degree of recovery depends to some extent on the exact position of the lesion. I am speaking of cases of patients who do recover; and I mean what we call recovery, not contending that there is absolute restoration of power in any case. Deficient dexterity may show loss of some "fine" (most special) movements; and too early fatigue of the "recovered" limbs means some paralysis, as does, also, undue slowness of motion of them. Speaking generally of all kinds of destructive lesions, I would suggest (I cannot speak definitely) that if a small quantity of a nervous organ be destroyed, there is recovery; if a very large quantity there is some recovery; if of a very large quantity, scarcely any. Some cases of hemiplegia, where the paralysis is very slight and also transitory, may be explained by the hypotheses that they are "functional," or that they are "owing to gout," or to liver and stomach derangement, or to constipation, and so on. The simplest hypothesis for these cases is, I submit, that there is a local destructive lesion, but a very small one.

The process of recovery is obviously of vast importance for our consideration in regard to rational treatment of some cases of very serious brain disease; for if recovery be spontaneous, we may err in attributing it to the effects of our remedies, and thus our opinions on therapeutics become untrustworthy. Why do patients recover from hemiplegia when the loss of nerve tissue is permanent? The reply is hypothetical. There are according to degrees of gravity of the destructive lesion, degrees of recovery. I should put down paralysis at the onset to the destruction effected, and attribute degrees of recovery to degrees of compensation; nervous arrangements near to those destroyed, having closely similar duties, come to serve, not as well, but, according to the degree of gravity of the lesion, next and next as well as those destroyed. Let us take for illustration the second degree of hemiplegia, supposing it to be owing to hæmorrhage. I should attribute the paralysis which the lateral deviation of the eyes (neglecting that of the head) signifies to the same cause as I should the rest of the paralysis, should say that nervous arrangements* for some ocular movements had been annihilated, should do so if I could at that time know that the deviation would pass away. I should not explain the recovery from this very definite and most particular symptom by the hypothesis of subsidence of initial shock, or by that of diminished congestion or œdema round about the lesion; these may be slight factors. When the patient recovers from the second to the first degree of hemiplegia, that is, when the lateral deviation of the eyes has gone, the recovery on my hypothesis could not be owing to restoration of lost nervous arrangements for ocular movements. But there are, I contend, innumerable other nervous arrangements for ocular movements remaining, and by them there is compensation for those annihilated, so that the patient seemingly moves the eyes as well as ever. I insist strongly that there may be loss of some *movements* of a part when there is no discoverable *inability in the muscles* of that part for all other movements. We must most carefully distinguish between loss of movements and inabilities in muscular regions. As perhaps the two expressions are not clear I give an illustration. Loss of speech, say an ordinary case of perfect aphasia, is a psychical loss, and we have nothing to do with it except as evidence of a correlative physical negative condition. This is destruction of nervous arrangements for certain very complex, etc., *movements* of the muscles of the tongue, lips, palate, etc. (surely there is loss of those movements the patient can no longer make); but the muscles of those parts are not unable for all other *movements*; indeed, they may even serve elaborately in articulation when the speechless patient swears. There is here, to my thinking, as certainly paralysis, *in the sense of loss of movements*, as there is in the same sense in the hemiplegia along with the aphasia, there being greatly more compensation in the former. Let me give what I think is a crucial demonstration of the general truth of the dictum that there may be paralysis in the sense of loss of movements without discoverable muscular inability. Horsley and Semon find that faradaic excitation of a certain part of the cortex of a monkey on either side of its brain puts both vocal cords in activity; this shows that movements of *both* cords are represented in *each* of the bilateral centres. Next ablation of either of the twin centres produces no obvious inability in either of the two cords, although of necessity "half" the *movements* of them are permanently lost, so to say, have been cut at. There is here immediate and, apparently, absolutely complete compensation. The facts of these experiments are in accord with Broadbent's well-known hypothesis, now just twenty-two years old. I consider that in case of aphasia there is loss of many movements of the vocal cords, although the patient's voice is not morbidly affected; he may be able to sing. Before leaving this part of my subject I would say that the foregoing remarks on Compensation imply that I do not accept the current hypothesis as to the nature of Localization ("abrupt localization") any more than I do the one sometimes called Universalization. I have re-stated the hypothesis I hold in the third Croonian lecture, 1884 (*British Medical Journal*, April 12th, 1884). Questions as to the correct principle of localization are not of mere theoretical interest; their discussion is not out of place in this address if they bear on the process of recovery. I would refer those interested in localization to a paper, very important in many other ways, by Beevor and Horsley (*Phil. Trans.* vol. 178 (1887), B. pp. 153-167). Without, of course, committing these able observers to any hypothesis of mine, I may say that the facts of certain experiments they made on part of the cerebral cortex of monkeys seem to me to be in great disaccord with the current doctrine of localization.

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* I here quote from the abstract of the report of a case of a patient of mine published in the *Journal*, August 30th, 1873, p. 274. A gentleman, æt. 38 years, in apparently good health, was first seen in July, 1867, for recent (July 14th) paralysis of the parts supplied by the left portio dura nerve, and for recent partial deafness of the left ear. There were also remains of paralysis of the right leg, which had begun in April. He rapidly got rid of all his nervous symptoms after taking iodide of potassium; but he did not continue the drug, because he believed all his ailments to be owing to ague poison. He had been in the West Indies, and still remained subject to slight shivering attacks; he had had primary syphilis fifteen years before. He remained well until March 2nd, 1868, when he became hemiplegic of the left side. *He would not take any drugs except aperients.* Nevertheless, in about a week he was apparently well again; but on March 21st, he was found apoplectic and again hemiplegic—this time of the right side. He died next day. At the necropsy there were found diffluent softening of part of the right corpus striatum, and also softening of the left corpus striatum. There was syphilitic disease of each middle cerebral artery. Thrombosis of each at the part diseased accounted for the two local softenings and for the two attacks of hemiplegia related to them.

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* Strictly annihilation of fibres passing between nervous arrangements of the middle and lowest motor centres.

I go on to speak further of the treatment of cases of hemiplegia, or rather, I should say, of the patients who present this symptom, now supposing syphilis to be excluded. In many of them there is an imperious necessity for treatment. This time the illustration shall be hemiplegia owing to cerebral hæmorrhage, the clot being the rough and immediate pathology of the case. Since we can do nothing for the clot (which although *in the brain* is really *out of the body*, being to all intents and purposes a "foreign body"), and since the nerve fibres broke up are non-existent, we widen our investigation to find out what we can do for our patient. We examine him all over, our aim being to discover why a diseased cerebral artery burst, in order that, by properly directed treatment, we may prevent bursting of other arteries. Let us take *part of* a hemiplegia, slight facial monoplegia, sufficiently described for our present purpose by saying that it is of the cerebral type. This paralysis is sometimes very transitory, but when it has disappeared we have often enough serious conditions to treat. If the patient's arteries be unsound (atheromatous and probably then miliary aneurysms of the cerebral vessels), and if he have hypertrophy of the left ventricle and renal disease, the probability is that the facial paralysis is owing to a cerebral hæmorrhage; because of the slightness and transitoriness of it, we conclude that the clot is a very small one. In all cases of cerebral hæmorrhage the condition of the arteries (statical as atheroma, dynamical as degrees of tension) is a thing of first importance; by instinct, so to speak, I feel the pulse first of all in the examination of a case of brain disease; we never fail to examine the urine. If we could imagine a doctor neglecting one part of his patient's case, he had better neglect the paralysis than the evil triad I have mentioned, important parts of the wide universal pathology which is the basis of the incidental pathology, clot, which I call the rough and immediate pathology of some cases of hemiplegia. The wide pathology is the proper field of our treatment. To give "nervous remedies," hypophosphites, strychnine, and so forth, for the cure of paralysis from cerebral hæmorrhage, is really to do nothing of value in a formal way; we have to neglect the paralysis so far as drug-treatment of it goes. Massage and gentle faradisation of the paralyzed limbs will be of some service whilst we are waiting for Compensation; they will be useful as an artificial exercise. To diminish the quantity of highly nitrogenized food, to look after the digestion, to keep the patient's bowels free, is the best style of treatment. If arterial tension be high we may give small doses of mercury and saline aperients. I forbid cold bathing. I never prescribe strychnine, having no faith in it as a "nervous remedy" for lesions answering to cerebral paralysis; it, among other doings, stimulates the vaso-motor centre, and thus will help to increase arterial tension. Our general treatment would be the same if the "rough pathology" of a case was epistaxis or retinal hæmorrhage, events of very evil significance in cases of chronic Bright's disease.

The results of the measures one adopts for diminishing arterial tension, are not always pleasing to the patient; perhaps, sometimes, we have too much zeal. A certain degree of arterial tonus is necessary for everybody's well-being; the more blood is in the arteries, the less is in the capillaries; that is, the less is close to the tissues. To an increased degree of arterial tonus the cheering effects of a cold bath are due, a luxury few people after fifty ought to indulge in. I submit that a healthy degree of arterial tonus is kept up by a normal degree of waste nitrogenized products in the blood, the "natural stimulant," I imagine, of the vaso-motor centre, as venous blood is the natural stimulant of the respiratory centres.* In Bright's disease, and in gouty states, there is an excess of these "natural" stimulants, and, very likely, presence of some unnatural ones, whereby I suppose the vaso-motor centre is overstimulated; hence excess of arterial tonus, or, as we call it when morbid, high tension. I have heard an eminent medical man say that he felt best when a little gouty; I suppose he had then a slight extra degree of tonus, so that his brain had a better supply of blood; the cerebral arteries, having less muscular tissue than most other arteries, would be less constricted. But in a high degree of tonus, high tension, such a feeling of well being is more pleasant than safe. I think there is something in the statements we hear about patients who die of apoplexy, that they had felt unusually well just before the onset of their illness; that is, before a fatal cerebral hæmorrhage; that is, before the bursting of a cerebral artery. If we reduce our patient's arterial tension, perhaps sometimes too much, by low diet and purgatives, he "feels weak" and is very naturally dissatisfied until it is explained to him that he had better be safe than have a feeling of well-being from undue arterial tension. Many a man with chronic Bright's disease lives on the brink of cerebral hæmorrhage; the less he lives the longer will he live; but if he tries to get the most out of himself, and is careless of his diet and of the state of his bowels, he may be high up in a certain kind of health, so to call it, only for a sudden fall to a low level of disability or to death.

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* The hypothesis more generally is that there is in health chemical regulation, so to call it, by natural stimulants in addition to, or rather as an aid to, physiological regulation by nerve centres and nerves, and that some particular morbid effects are the results of excess of those stimulants. I have (*Brain*, April, 1886,) suggested that the convulsion in laryngismus stridulus is owing to supervenosity, to an excess of a "natural stimulant" of the respiratory centres. In the same way I think it likely that rigor is owing to an excess of the natural stimulant of the vaso-motor centre, and very likely that some convulsions in kidney disease (not those which are unilateral) are owing to excessive stimulation, primarily of various "regulating centres" in the medulla oblongata, by waste products which the kidneys ought to, but cannot efficiently eliminate. [Consider in this connection convulsions in animals after the injection of the poison absinthe, and especially Dr. George Johnson's researches on convulsions in man consequent on poisoning by camphor. (*Medical Lectures and Essays*, p. 311.)] Dr. Maclagan, in his work on fever, makes the very interesting, and, as I think, most important remark, that heat is the natural stimulus of the heat inhibiting function, and that accumulation of heat in the system naturally excites that function to increased activity, and may at length exhaust it. In some cases of jaundice, the pulse is less frequent than normal, possibly by action of bile acids. The mode of action of bile acids on the circulation is not known, and it would be premature, for several reasons, to conclude that there is in such cases an excess of a natural stimulant to the ends of the vagi.

I will now speak more generally on the essentially non-nervous nature of many diseases called nervous. For a realistic consideration of the pathology of any case of disease of the brain, we have to consider whether or not the morbid change *begins in* nervous or in non-nervous *elements* of nervous *organs*. Hemiplegia is not a nervous disease at all, in the strict sense; it is, in most cases, an arterial affair. For my part, I do not believe in the existence of "emotional hemiplegia" (or of emotional aphasia either); at any rate, I shall ignore it here, and also cases of so-called hysterical hemiplegia. I go on to say of nearly all diseases of the brain of which there is a known morbid anatomy, that they are not nervous diseases in the strict sense; they are damages of nervous organs, but their pathology is not primarily nervous; that is, the morbid change does not *begin in nervous elements* of the nervous organ damaged. Here is a very important question regarding fundamental pathological diagnosis, and also treatment. A nervous organ, besides what we may call its proper ingredients, nerve cells and fibres, contains connective tissue and blood vessels; the latter, for some purposes, we may call compound tissues. It may be that in some diseases the nervous elements are the first to go wrong, as in what is called parenchymatous atrophy of the optic nerves, and in the "degenerative diseases" of the nervous system. Saying nothing whatever for or against this hypothesis, I urge again that most nervous diseases of which we *know* the morbid anatomy are not nervous in the sense that the pathological changes begin in the proper nervous *elements* of nervous *organs*. This dogma I have already repeatedly illustrated in this address, especially when analyzing the state of things in "syphilitic hemiplegia."

There is a class of nervous diseases (often called the "neuroses") in which there is no morbid change. I mean, of course, that there is not one yet for us. There is a morbid change, no doubt a minute one, but we have not discovered it. The term "functional" is sometimes applied to some cases of this class in the sense that there is no morbid change answering to the symptoms. I never use the term functional in that way in scientific exposition (*vide supra*). In cases of the two neuroses, epilepsy and chorea, there is evidently abnormal function in the true sense of the word (an exaltation of function issuing in strong discharges), implying abnormally increased nutrition (pathological process) from some cause. What we do not know is the pathological process productive of this functional abnormality. Strange to say, confident opinions are expressed that the neuroses are of purely nervous origin and that they occur, in "neurotic" families, interchangeably by inheritance. Is this because they have as yet for us *no* "morbid anatomy?" Of course, it is quite a legitimate hypothesis that the neuroses are nervous diseases in the sense that nervous elements are primarily in fault. But, as we *know* nothing of their pathology, it is an hypothesis only. It is equally legitimate for me to put forward another hypothesis as to one of them—epilepsy proper. That hypothesis is that, in most cases of this disease, the pathology is primarily arterial (sometimes, I think, venous) and only secondarily nervous, in the same way that most cases of hemiplegia are primarily arterial and only secondarily nervous. The facts that an epileptic patient's blood relatives had apoplexy, hemiplegia, meningitis, tumor of the brain, etc., supply no evidence whatever towards proving that he inherits a tendency to disease *beginning in* nervous elements; do not warrant the inference that his epilepsy is strictly a nervous affection—one primarily nervous. On the contrary, such evidence tells quite the other way. If it have any bearing it points to a primarily non-nervous and to only a secondarily-nervous pathology of the epilepsy, because the "nervous diseases" in the patient's family are not nervous diseases at all in the strict sense, although they are damages of nervous organs. The occurrence of chorea and migraine in the patient's blood relatives does not decide the question either way, because we have no certain knowledge of the pathology of these two morbid affections. The hypothesis I put forward as to the pathology of most cases of epilepsy (and for most cases of migraine and chorea too*) is that it is plugging of small cerebral arteries and its consequences.

It is quite reasonable to consider first simpler cases of "fits," epileptiform seizures, to see if their pathology countenances the hypothetical pathology I have submitted of epilepsy proper. I am not aware that anybody believes that the pathology in any case of epileptiform seizures is primarily nervous; that there is a nervous change (one of exaltation of function) is obvious enough, the occasional nervous discharges (liberations of energy) declare that there is. The nervous change is secondary, and is often determined by tumors and other masses; on this matter I have, in an earlier part of this address, said enough. But in some cases the (secondary) nervous state is a result of plugging of arteries;* in these cases the hyper-physiological or functional change, that of the nerve cells ("discharging lesion") is in an arterio-cortical region, and is a very local one. The group of highly over-unstable cells making up the "discharging lesion" is certainly in but one side of the cerebrum, although sudden, etc., discharge of that lesion will, if the discharge be strong enough, produce *universal* convulsion. The conclusion is that in some cases of epileptiform seizures a local "discharging lesion" is a secondary result of abnormal nutrition consequent on plugging of arterioles; in other words, that the pathology is exactly the same as that of most cases of hemiplegia. The abnormal *physiological* state of nervous elements (the secondary nervous state) in the two is diametrically opposite; in the former case the change we are concerned with is a *plus*, in the latter a *minus* functional change, and is often actual destruction; in both cases the secondary—the nervous—state is persistent; in the former there are occasional excessive developments of movements (convulsions); in the latter there is permanent loss of movements. Why in the former case there is produced high instability of cells (and no doubt destruction of many others) and in the latter destruction only, may possibly depend on differences in the degree of anastomosis of central and cortical branches of the middle cerebral artery, the former having none or next to none, the latter varying in that respect in different persons and in the same brain in different branches. Complete arrest of circulation in an arterio-cortical area would produce destruction of nervous elements; but some anastomosis might lead to a comparative restoration of circulation, otherwise to *comparative stagnation*—to a semi-stagnant patch. Such a condition is likely to cause destruction of cells in the central part of the arterial area, and is one favorable for over-nutrition of an inferior kind of those at its periphery. I have suggested that there is substitution nutrition, a replacement of phosphorus by nitrogen; the nervous matter resulting, although of a different composition, and more "explosive," being of the same constitution as in health. I have, since my earliest scientific studies of epilepsy (1864) been interested in its arterial pathology, having been so long ago much impressed by the occurrence of convulsions beginning in parts presumably paralyzed from the effects of embolism.

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* Dr. George Johnson, *op. cit.*, p. 510, writes: "Chorea is sometimes associated with and apparently caused by, capillary embolism in some portions of the brain near the corpus striatum.

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* I have never believed that the local high instability of cells *directly* causative of epileptiform seizures is produced by tumor only. I put forward the speculation that seizures of this kind (I then called them unilateral convulsions) sometimes depend on embolism (*London Hôspital Reports*, 1854, vol. i, pp. 465-6), making the crude and, at that time, the following much too confident statement: "They are, I am convinced, not infrequently the result of plugging of branches of the middle cerebral, partially occlusion of its main trunk or some of its branches." To the same effect: *Med. Times and Gazette*, August 13th, 1864, p. 167. I have re-stated the hypothesis I hope more clearly and correctly (*St. Andrews Med. Grad. Trans.*, vol. iii, 1870; *Reynold's System of Medicine*, vol. ii, second edition, pp. 284-5). I have stated it with regard to both epileptiform seizures and epilepsy proper (*West Riding Asylum Reports*, 1873, vol. iii, pp. 328-9; *Med. Press and Circular*, January 26th. 1876; *Med. Times and Gazette*, January, 1879). Frank and Pitres (*Archives de Physiologie*, August 15th, 1883, No. 6) found that out of seventy-one cases of what I call epileptiform seizures, there were tumors in thirty-two cases, "ramollisements inflammatoires on emboliques" in sixteen; in the rest various other lesions.

(To be Continued.)

ABSTRACTS.

CROONIAN LECTURES ON ANTIPYRETICS. Delivered at the Royal College of Physicians. By Donald McAllister, M.A., M.D., F.R.C.P., Fellow and Lecturer of St. John's College, Cambridge.

(Concluded from page 274.*)*

LECTURE V.

To complete the account of the physiological action of antipyrin, it was necessary to say something of the remarkable effect it had in allaying certain forms of pain, especially that which we are accustomed to call neuralgic. Without going too deeply into the views the lecturer entertained as to the nature of pain, it would be enough to consider one or two aspects of it. The seat of pain was in the brain. Ferrier had localized the tactile sensation in a particular region, the hippocampal convolution and its neighborhood. When this centre is destroyed, though the sensory nerves are intact, there is loss of common sensation, and insensibility to pain when the peripheral nerves are irritated or injured. When it is intact, such irritation calls forth the movements which are recognized as the outward manifestations of inward pain. It is possible, however, without injury to the centre to inhibit the manifestations of the sense of pain. Centres higher than the tactile are capable by their action of repressing its over-excitation, even when the peripheral stimulus is urgent. In the heat of a battle a wound is unfelt. "The labor we delight in physics pain." Intense concentration of the attention is an analgesic. In the hypnotic state it is probable that powerful stimulation of inhibitory centres plays the chief part in producing the analgesia often observed. The afferent nerves were regarded as catabolic to the pain-perceiving organ; the higher inhibitory centres were capable of sending it anabolic impulses. Over-excitation of a sensory nerve led thus to excessive disintegration of the cerebral tissue, and therefore, if we could check the waste or intensify the anabolic influences reaching the tissue, we might abolish the pain which was the psychical counterpart of that waste. This was apparently what the nervine antipyretics accomplished. They acted, not by numbing the sensory nerves, but by stimulating the inhibitory centres. The new drugs which reduced fever by their action on the thermo-inhibitory mechanism, were found, by a like action on other centres, to be each in turn capable of abolishing pain.

The effect on the sweat glands was not wholly accounted for by the increased circulation through the skin. To flush a secreting gland with blood was not all that was required to induce it to perform its function. The secretory nerves required to be simultaneously stimulated to action. The surface might be highly hyperæmic in fever and yet remain harshly dry. Antipyrin doubtless furnished the necessary nervous stimulus, and it was in accordance with the other actions suggested that it should do so by stimulating the anabolic component of the secretory nerves and centres.

Antipyrin, therefore, on review of all its properties, was to be classed as a true antipyretic, and not merely as a refrigerant; it was not, however, a febrifuge. It repressed thermogenesis, and, at the same time, did something to make thermolysis more efficient. It imitated nature; it produced an artificial crisis by the same mechanism as nature used in producing a true crisis. In neither case, however, was thermotaxis at once restored. As after a true crisis the temperature, though lowered, was still very unstable, so after antipyrin the temperature was ready to rise again on slight occasion, and did, in fact, rise as soon as the drug was eliminated. It did not cure the specific fever, it only allayed the pyrexia. In pneumonia, for example, the temperature could be brought down by antipyrin on the second or third day and kept down continuously, but the other physical signs remained unaffected and did not change till the true crisis appeared. This, of course, would not be indicated by any abrupt fall in the temperature; but the pulse, breathing, sputum, and physical signs all showed that resolution had begun, that the acute phase of the disease was at an end. The *symptom* fever was separated from the other symptoms, but the morbid process was not thereby appreciably altered. In typhoid, in like manner, though the disease might occasionally be made to run an almost Apyretic course by the use of antipyrin, it did not appear to exert any specific action, the duration of each case was about the same, and relapses were as common, if not, indeed, somewhat commoner than under a purely expectant treatment.

In the hectic fever of phthisis, antipyrin was capable of lowering the daily accessions of fever, and the comfort of the patient was in consequence increased. But the influence was essentially transitory, and no real or permanent improvement in the signs of the disease accompanied it. The drug counteracted the *effect* of some morbid poison on the thermal mechanism; it did not effect the *generation* of this poison. It was purely a symptomatic remedy, like codeine for the cough; atropine for the sweating; mineral acids or opium for the diarrhœa. But it was none the less an acquisition to our therapeutic resources to possess a means which at once was potent to reduce the febrile temperature, and that *cito, tute, ac jucunde.*

In rheumatic fever, on the other hand, something like a specific action was observed. The pain and fever were in many instances very promptly allayed, at times within twenty-four hours. But it was still doubtful whether this argued an action analogous to that of the salicylates. The lecturer had seen cases in which, though there was neither pain nor fever, the swelling and redness of the joints remained unimproved, and when the antipyrin was discontinued for a day the attack resumed its previous severity. However, the causation of rheumatism was so bound up with excessive or perverted metabolism in the muscles, that he was prepared to believe that a medicine capable of checking muscular metabolism might go far towards striking at the root of the disorder. The question was, in fact, still an open one.

The relative merits of antipyrin, thallin, antifebrin, and phenacetin were very briefly dealt with. The discussion of these must rest largely on accounts of clinical experience, and the condition of the lectureship appeared to exclude any long digression in this direction So far as their physiological action was known, it was similar to that of antipyrin, which he had taken as their type. They all repressed thermogenesis, and probably all in the same way, though there were differences in the intensity and duration of their effects. Antifebrin was especially to be commended for its smaller dose and its cheapness, and it proved an efficient and pleasant antipyretic and analgesic.

Turning next, for comparison's sake, to another antipyretic method, by some considered *the* antipyretic method, that of cold bathing, the lecturer said that though its application was originally based on a theory which he regarded as erroneous and one-sided—namely, that high temperature is the primary source of danger in fever—the practice had, in typhoid fever at least, proved itself remarkably efficient. It had been so widely used abroad, that statistical data for a judgment on its success were unusually abundant. Within late years exhaustive discussions on the bearing of these data had been published. He instanced that of Dr. Cayley in 1880, that of Dr. Sidney Copeland and others at the Medical Society in 1884, and those at the first and fourth Congresses for Internal Medicine at Wiesbaden (1881 and 1885). The special memoirs of Küchenmeister, Naunyn, and others dealt with the same question, and he would therefore refrain from going over the same ground, confining himself to reciting what he took to be the verdict at present. Naunyn, who was not affected by the prepossession of the extreme school that fever as such was the chief enemy to be combated, who had indeed done a great deal to overthrow this doctrine, nevertheless could say: "I consider it proven, as a matter of statistics, that the cold water treatment of typhoid shortens the duration of individual cases, and, above all, very considerably reduces the mortality—namely, from 15 or 20 per cent. to 5 or 10 per cent. And von Ziemssen, who was not an enthusiast, who had contributed much to our knowledge of other methods of treatment, and who had a very large experience of all, concluded that "of all the therapeutic methods which have been adopted for typhoid, hydrotherapy deserved to be put foremost. The experience of all competent observers undoubtedly goes to justify this preference." Two questions might, he said, be asked regarding a therapeutic method: first, does it exert a favorable influence on the individual case? secondly, does it show a like influence on the general run of the cases, as indicated by the mortality? Both of these questions, on the ground respectively of clinical observation and of statistics, must be answered in the affirmative. As regards, the disease in Germany there was hardly room left for doubt as to the value of the method: it was difficult to believe that the conditions were different in England. The experience of those in this country who had judiciously and systematically applied the cold bath treatment was cited, and proved on the whole to be in accordance with that on the Continent. Dr. Sidney Coupland's account of the obvious effects of bathing was taken by way of indicating the questions concerning its physiological action which had to be studied.

First, several reasons were given to show that the benefit of the cold applications could not be exclusively due to mere refrigeration, to simple abstraction of heat from the body by *force majeure.* Naunyn had insisted on this point, and had furnished good reasons, clinical and experimental, in its support. The most efficient method of keeping down the temperature in typhoid was the continuous tepid bath of Riess, in which patients were kept in water at 88° F. or so from ten to twenty hours at a time. In this way the temperature might oscillate about the normal throughout the greater part of the illness, yet Riess' rate of mortality was not of the lowest. Including all cases, it was on the average 22 per cent. The same observer had previously forcibly suppressed pyrexia in his patients by the continuous use of sufficient doses of salicylic acid, but notwithstanding he lost 24 per cent. of his cases. Other instances were given in illustration, and the conclusion drawn that we must seek for an explanation of the wholesome effect of cold bathing in its influence on the nervous system, transmitted in the first instance through the sensory nerves.

The effects on the several factors of the thermolytic system were then considered in detail. The primary contraction, followed by reactive dilation of the cutaneous vessels, was compared with the vaso-inhibitory action of antipyrin. The radiation from the skin was increased after tepid baths immediately; after cold baths it was at first diminished until the skin temperature rose to a certain height, when it again increased. Diuresis was a usual result of the bath, and might be credited, among other more important and valuable results, with a certain thermolytic effect. The changes in the respiration, the increased depth and slowness of the breathing, were described and evacuated from the same point of view. Incidentally it was remarked that the fear some physicians entertained lest cold bathing might bring about pulmonary congestion was not justified by experience, or indeed by physiology. On the contrary, the pulmonary tissue was more fully opened up, bronchial and vascular obstructions removed, and the signs of partial collapse or engorgement usually done away.

As to the effect of cold bathing on thermogenesis, there was still a great deal to learn. Direct calorimetric experiments which would be at all decisive on the subject were very difficult to devise, and the lecturer had not been able to suggest any satisfactory contrivance. A number of observations had, however, been made on the changes in metabolism that accompanied the baths, but in most the method used was not free from physiological objections, and in few had the temperature been effectively kept down for any length of time by the application of cold. Riess, whose experiments on antipyrin had been alluded to, had made a parallel series on the effects of his continuous tepid bath, and his results were the most directly comparable with those on the effect of drugs. Three days of the continuous bath were interpolated between two periods of three days each when the fever was unchecked. Cerebral disturbances were absent, and no difficulties in making exact determinations of the excreted nitrogen were met with.

In four cases the increase of nitrogenous excretion during the bath days over the average of the fever days was respectively 13.1, 12.4, 2.7, 37.0 per cent. In the last case defervescence had probably commenced during the course of the experiment; but if the last days of low fever were excluded, and the bath days compared only with the preceding fever days, the percentage of increase was still 25.8. This effect was just the opposite of that obtained under antipyrin, and it pointed most suggestively to a different *modus operandi* for the two antipyretic methods. During the bath days it was, moreover, to be observed that the urine excreted was greater than on the fever days by 3310, 2450, 2650, 2750 cubic centimetres respectively. There was thus no direct evidence of diminished thermogenic metabolism under the continuous bath. Was it possible that in unchecked typhoid fever the nitrogenous excretion, though in excess of that in health, is yet inadequate to eliminate all the waste that is produced? If so, the baths might be supposed to lead, not to increased metabolism, but merely to increased discharge of the accumulated nitrogen. Dr. Murchison's supposition that the cerebral and other symptoms in typhoid were "uræmic" in character was recalled, and correlated with this hypothesis of retained nitrogen and with the ascertained effects of bathing on the kidney.

One inference which might be drawn from this apparently fundamental difference of action in two methods of treatment, both potent to lower the temperature, was that the two methods were, as Reiss had said, complementary. Combined antipyresis in typhoid, an evening bath, and antipyrin or other efficient drugs during the day, would be eminently rational, and it was certainly more suitable for English practice than the frequent cold bath. It should not, in the present state of our knowledge, be held as a reason for condemning the baths that they led to increased discharge of nitrogenous excreta; but it certainly was in favor of antipyrin, that it diminished not merely the discharge but the production of such waste. In certain cases—such, for example, as those presented by feeble, emaciated, or aged patients—

it would be preferable to employ an antipyretic method which was proved capable of checking metabolism; while in robust and previously healthy patients the fact that metabolism was apparently increased by cold applications would not hinder us from resorting to a mode of treatment which clinical experience had abundantly proved to be useful.

THE ADDRESS IN SURGERY.

The following is the *British Medical Journal's* editorial review of the Address in Surgery, delivered by Sir Geo. H. B. Macleod, before the late meeting of the British Medical Association at Glasgow. We regret that we have not the space at our disposal to publish the whole address, but a fair idea of its contents can be gained from this interesting review:

The Address in Surgery delivered at this year's Annual Meeting at Glasgow by Sir G. H. B. Macleod, does not yield in interest to any of those contributed to our proceedings by the famous surgeons who have preceded him. It is a difficult task to give, within the compass of a single article, any adequate idea of a speech so rich in matter; but we doubt not that our readers will supplement all deficiency in our account by reference to the original. Sir G. Macleod takes for his theme "The Progress of Surgery During the Last Half Century," a subject which, though it has been treated by others, is ever new and is a record of ever-increasing triumphs

As Sir George truly says, "It is fully admitted that in every department of human knowledge our half century has been signalized by a progress greater, more momentous, and more permanent than any other in the world's history; and in this advance medicine in all its branches has so largely and bountifully shared that even a bare recital of what has been done fires the imagination and makes the heart throb with triumph."

The introductory sketch with which his address commenced is a model of terseness. It concludes with this singular statement as to the estimate formed by a great surgeon just after the conclusion of the French war: "Then it was Boyer wrote that 'surgery seems to have attained the highest degree of perfection of which it is capable!'" How many are inclined to echo Boyer's words now, and how much reason have we not to hope that fifty years hence they will seem as absurd now as we know they were then!

The first topic which Sir G. Macleod handles is that of Anæsthesia, and here he makes a statement so important that we must make room for the extract:

"I myself, after fairly trying most of the agents in use, now exclusively employ chloroform, and having for years kept an accurate record of its administration, and given it freely and without stint in all sorts of surgical proceedings, never refusing its benefits to a single patient, no matter what his condition, or the operation to be performed. I have never had an accident except once, when an epileptic took a fit while being put under its influence, and died with a full and fixed chest. For speed and energy, for ease of application and agreeableness, for rapid recovery with little subsequent trouble, and for safety *when properly administered*, chloroform is, in my opinion, unrivalled. That it needs no apparatus but a towel is a great point in its favor. This is the record of one who has administered it constantly almost from the time of its introduction into practice, and the statement in this sense may not be without its value. I never measure the quantity used, but exhibit it freely, and take the color of the lips and the respiration as my chief guides. Making the patient count at the beginning of the administration is a most valuable aid; and Nélaton's inversion of the body with artificial respiration is, I think, the surest mode of resuscitation in danger from failure of the heart. A minute is about the average period for inducing insensibility; and it is very rare, if proper precautions are taken in the way of preparation and after-management, to have any sickness. There is little doubt that 'nervous' persons and those who are intemperate in the use of alcohol, tobacco, and narcotics, and also epileptics, require special care. Over-saturation from the too frequent renewal of chloroform induces, in my opinion, the chief after-trouble."

At the present time, when some speak so strongly as to the relative safety of ether, the contrary evidence of a man of Sir G. Macleod's vast experience deserves surely, not only to be put on record, but to be carefully pondered by operating surgeons. Equally important is what he has to say about antiseptics and bacteria, and we doubt not that the good sense of the profession will echo Sir G. Macleod's opinion, that "the present tendency is, perhaps, to exaggerate the influence of microbes, to take effects for causes, and ascribe to their agency almost every ailment," though we need hardly say that our orator is as enthusiastic, as it is natural and indeed inevitable for one speaking in Sir J. Lister's old school to be, as to the future of antiseptics and germicides.

In speaking of the construction and location of hospitals Sir G. Macleod is, to our thinking, less happy. After a short reference to Sir J. Simpson's assertions about "hospitalism," without any hint at their extremely dubious nature, he proceeds:

"That intramural hospitals are on their trial cannot be doubted, notwithstanding the immense addition which antiseptics have made to their salubrity; and the multiplication of village infirmaries, country adjuncts to city hospitals, and convalescent institutions since 1860, is evidence of the belief that smaller establishments in rural districts meet modern ideas more nearly than huge piles without space for fresh air and recreation in the dense and polluted precincts of our great cities."

We cannot but say that great as is the good which has been done by the institution of cottage hospitals, that good is due not to any greater salubrity in the buildings themselves (at least no evidence has ever been offered to show anything of the sort), but to the bringing of the institution near to the door of the sufferer or the place of the accident; and that the insalubrity of the hospitals of Paris, to which reference is also made, was caused by well-known offenses against cleanliness, etc., which had nothing to do with the urban position of the buildings, and which would have produced the same effects on the top of a mountain as surely as by the banks of the Seine. It is imprudent, to say the least, to shake the confidence of the public in the healthiness of the hospitals, which must, of necessity, be established in the great centres of population; and we believe that all argument and experience, not only since the introduction of antiseptic practice, but before it, testify to the fallacy of the conclusions of Simpson and his followers."

The other topics touched on in this address are almost innumerable. We must content ourselves with a few specimens. The following refers to an interesting point of practical surgery, and will be heartily endorsed by those who have always maintained the superiority of the ligature over not only the bungling method of acupressure, but the elegant and seductive process of torsion.

"The old method of closing arteries by torsion (used by Galen and Avicenna, but more especially studied by Amussat in 1829), was much in vogue a few years ago; but it and acupressure (described by Heister and many others), which Sir James Simpson (1859) supposed would supersede all other hæmostatic methods, have been replaced by the antiseptic ligatures now in use. The modern practice of using water at a temperature from 120 to 160 deg., F., for the arrest of oozing is, in my experience, admirable."

With regard to aneurysm, Sir G. Macleod speaks thus of compression:

"The enthusiasm with which it was pursued for some years has been hardly maintained from the difficulties attending it and its not infrequent failure. In some positions, however, it will be always employed; and the remarkable success in abdominal aneurysm obtained by Murray (1864), and in iliac aneurysm by Heath and Mapother, applied to the proximal side under chloroform, has been most encouraging. . . . Antiseptic buried ligatures, with antiseptic dressings, have again placed the use of the ligature in the ascendant, though it would be difficult to excel the success of Syme, who tied the femoral thirty-five times, with only one failure, before the modern methods were introduced."

Here, again, we think that the judgment of his contemporaries will approve our orator's statement. The much increased success of operations in late years has proportionally diminished the reason for avoiding the knife in this as in other diseases.

The same is the case, also, in ununited fracture.

"From one cause or another it fortunately happens that now ununited fracture and vicious union have nearly disappeared. Antiseptics and wiring the fragments have enabled surgeons to do away with many methods of treating ununited fracture which before prevailed.

Compound fractures have also lost their danger, and rarely lead to amputation."

We need not wonder if many of the opinions which are here expressed are disputable, being on topics as to which experience has hardly yet been sufficiently extensive. We are not sure that all surgeons would agree in the following: "Perrève, in 1847, gave us the best instrument for rapid dilation (of stricture). Though using it frequently, I have never seen any harm follow, while it has proved most serviceable in limited recent contractions."

As to lithotrity, again, our author is, to say the least, somewhat sanguine. "The extention to young boys (even to infants, as has been lately shown) of the advantages of lithotrity has also been attained, so that great size and extreme hardness are almost the only obstacles which now stand in the way of its universal application. With a better knowledge of the causes which produce calculus, an earlier recognition of its presence, and the modern system of removing it entirely at one sitting, it may be said that one of the greatest of human calamities has been nearly overcome." No doubt, in theory, the early detection and early crushing of stone in the bladder ought much to limit the scope of lithotomy; but while the intellect of ordinary humanity remains at its present level we fear that cases of formidable calculus will still occur, and we must say that in these the advantage of litholapaxy over lithotomy, in one or other of its forms, is more a matter of opinion than demonstration.

One very short allusion is all that Sir G. Macleod has given to a most important improvement in the art of surgery originating in his own city. "For spina bifida, as is well known, the combination of iodine with hydriodate of potash and glycerine, introduced by Dr. Morton, of this city, has proved by far the most useful and efficacious of any of the plans of treatment in use."

Another interesting topic is the accessibility of the bladder to various operative proceedings above the pubes. "The ready removal of some growths from the bladder by perineal or suprapubic incisions, and the admirable results got by MacCormac and others by suturing the ruptured bladder (an idea thrown out by Benjamin Bell in 1789), and cleansing and draining the pelvis, are clear and important gains to practical surgery."

Passing over the interesting observations on the subject of syphilis, on ovariotomy (which our orator connects with Houston, an ancient Glasgow surgeon, for the somewhat insufficient reason that he used to drain ovarian cysts), on numerous other interesting topics, and particularly on the nature of cancer, we come to cranial surgery; but as this is so much more fully treated by Dr. Macewen, we prefer to direct our readers' attention to some other extracts.

Every one now is talking and thinking of excision of the larynx, as to which Sir G. Macleod speaks thus: "Excision, partial or complete, of the larynx dates from 1866, and has now been many times repeated with increasing success, though its adoption in simple growths seems indefensible. Intubation of the larynx is another interesting subject which promises important results."

We fear this opinion, if acted on, would nearly banish the operation from practice, for growths which are confirmedly malignant seldom admit of it, and the recent case of the Emperor Frederick suffices to show how difficult the diagnosis is in the early period of a tumor. The operation itself, however, whatever we may think of its after results, is a striking evidence of the daring of modern surgery, as well as of the ingenuity of our instrument makers.

The new developments of the operative surgery of the thorax are succinctly but very satisfactorily treated. "Resection of the ribs," says Sir George, "('thoracoplasty') and of all unyielding structures, so as to admit of more complete draining and collapse of the cavity, which was a startling suggestion only five or six years ago, is now frequently and successfully performed, and has been the means of saving not a few lives which otherwise would have been slowly and hopelessly destroyed. This proceeding Estlander has systematized, and the operation often goes by his name. How great is the change of opinion as regards the operation for empyema since the time of Dupuytren, who preferred to die rather than submit to the risk of having his chest tapped!"

Next we come, naturally, to abdominal surgery; and here our orator shows himself on the side of those who think the boldest course the safest. "Laparotomy," he says, "now so frequently had recourse to, is justifiably employed even for exploratory purposes. After all penetrating wounds, or even after injury without a wound where there is reason to fear that bleeding or extravasation has taken place, opening the abdomen, securing the aperture by suture, and cleansing and draining the cavity is the recognized practice since Gross suggested it in 1843. In intestinal obstruction and all forms of peritonitis laparotomy is now the rule."

We quite accept our orator's teaching, but it must be with the reservation that all possible means of diagnosis and treatment have been previously tried. We hear a great deal of the successes of laparotomy and but little of its failures; and without dwelling too much on the latter, or wishing to use them as an argument for decrying an operation which, on the contrary, we believe will soon become even more common than it is now, yet every surgeon must allow that it is a grave and often very dangerous proceeding, not lightly to be undertaken, nor in any case which is not entirely beyond the hope of relief by less heroic treatment.

We had marked many other portions of this most interesting and suggestive address for extract and comment; but the laws of space are rigid, and we can only make room for the following eloquent peroration:

"Gentlemen—I have thus, in the limited time at my disposal, and to the best of my power, noted the changes and improvements in surgical theory and practice which have emerged during the last half century. The task I set myself has proved longer and more difficult than I anticipated, as the harvest has been extraordinarily abundant. I am conscious of having omitted much from want of time and knowledge, but I trust I have succeeded in showing that in every branch of the surgical art there has been a wondrous advance, and that the profession to which we belong marches in the very van of the great army, recruited in all climes, whose aim is to enlarge human knowledge. Such a retrospect as I have attempted must make us reverence a profession whose hope and ambition it has ever been to abate suffering, without distinction of race or creed. We see how an abiding and ever-increasing purpose has run through these long ages, and that while we now rejoice at being no longer bound by the authority and crude doctrines which shackled our forefathers, we can yet honor the traditions of the past, and appreciate the efforts of that great host of devoted men who have, by their unselfish labors, built up the famous temple of our art."

Thus ends, well and worthily, an address which deserves, and we have no doubt will receive, the profound attention of all those who are engaged in the terribly responsible but glorious profession which has rendered such great services to mankind in the past, and promises still greater benefits in the near future.

CLINICAL RECORDS.

Myoma. By Wm. Govan, A.M., M.D., Stony Point, N. Y.

Was called Oct. 12, 1887 to see Mrs. L——, æt. 48 years, the mother of six children. I found the patient weak, pale and emaciated. She had been for nearly four years confined to her bed on account of weakness and debility and almost constant flooding, at the time of my visit she seemed almost exsanguinated. She was also suffering from chronic malarial fever. She informed me that the flooding had continued more or less since its commencement four years ago, in spite of the efforts of several physicians who had been called to see her to arrest it, and for two years she had complained of an ovarian pain and a bearing down, and that about a year before my visit a tumor had protruded from the womb into the vagina and about six months ago, after a movement of the bowels the tumor had protruded from the vulva. A physician who had been called to see her pushed back the tumor into the vagina, being afraid the patient would die from loss of blood. On account of the extreme debility and nervous condition of the patient no satisfactory examination could at that time be made by me of the vagina or tumor, her pulse was 90 and temperature 102, the pain was so severe in the lower part of the abdomen that the patient would not allow any one to touch her. I prescribed such medicines as I deemed necessary to alleviate her pain and overcome her weak and feeble condition and if possible to avert the long continued hæmorrhage and constantly recurring fever — considering that the condition of the patient was such as not to warrant anything more being done for her at that time. The patient improved, fever grew less and less and although the hæmorrhage was not entirely arrested, she gained in strength and became very desirous of having the tumor removed even if she died from the operation. I therefore, with the assistance of the attending physician, on Oct. 17, 1887, went to the residence of the patient, in order, as ministers say, if the way was clear to remove the tumor. After putting our patient under the anæsthetic influence of a mixture of chloroform and sulph. ether, we were enabled to make a thorough examination of the vagina and found the tumor filling completely the entire space of the vagina. To my suprise I found instead of a fibroid polypus which I expected to find, a smooth and shining tumor nearly as large as a child's head at birth and on further examination I found that the neck of the tumor was attached to the inside of the os uteri and quite high up, I then, after making an incision with a serrated spoon as far up as I could around the neck of the tumor, pushed the chain of an écraseur close up to the attachment of the tumor. After the chain was drawn tight around the neck of the tumor, to my regret it broke. Having fixed the chain as well as I could I again pushed it over the tumor and well up on the neck, and having tightened it and hoping this time to cut through the neck it again broke, as I did not like to be foiled and not having a pair of scissors with me long enough to reach the attachment of the neck I drew the tumor with a tenaculum outside of the vulva, and then found I had a membrous sack to deal with containing fluid and a large hard substance. Here then was no backing out, and no one was within miles of me from whom I could get any advice, so I concluded to go ahead and risk the consequences. I had never seen a myoma, but supposing this case to be one and not having the fear of the great hæmorrhage which I afterwards found so often occurred, according to the text-books, and, added to this, the awful announcement that almost instant death followed its excision from the uterus, I cut the neck of the sack as far up inside of the os as I could reach with the serrated spoon. The sack being cut through a large quantity of fluid was discharged and a hard tumor about the size of a large flat turnip and nearly of its shape rolled out. To avoid any hæmorrhage in my absence having from other engagements soon to leave and also as I lived at a long distance from the patient, and also the attending physician, I plugged the vagina with small sponges saturated with a solution of the per sulphate of iron and gave such other directions as I deemed necessary. On visiting the patient the next day she had come out of the anæsthetic condition all right and was otherwise improved in appearance. No hæmorrhage had taken place. Pulse and temperature had been reduced to the normal condition. Since then by the aid of good nursing and the use of the tonics prescribed the patient has continued to improve without any drawback or unfavorable symptom. I saw her a few days ago. She has had no return of the flooding, is able to do her housework and has made several journeys to see friends at a considerable distance from her home with perfect safety.

GUNSHOT WOUND OF STOMACH AND LIVER TREATED BY LAPAROTOMY AND SUTURE OF VISCERAL WOUNDS, WITH RECOVERY.

By H. C. Dalton, M.D., of St. Louis, Mo., Superintendent of the City Hospital.

Louis Prentice, colored, æt. 22 years, entered the hospital at 12:30 A. M., December 24, 1887. He stated that one hour before admission he was shot with a pistol of 38 calibre at a distance of four or five feet, that, as the shot was fired, he turned his left side toward his opponent, and leaned over toward the right. His assailant was sitting on a bed about two feet high. He was not knocked down by the shot, nor did he experience much pain from it, but felt a peculiar burning sensation at the site of the wound. He was driven a mile and a half over a rough macadamized road after the injury.

I was notified at once upon his arrival, and found him with a pulse of 82, good volume, respiration 24, temperature 98.8° F. There was no tenderness except at the point of entrance of the bullet; there was no shock. When he was put upon the operating table I noticed a chancroid on corona glandis, which he said, he had first discovered three days before, and four days after connection. The left inguinal glands were swelled, hard and tender. Patient's appearance was indicative of robust health; he had never been sick except with intermittent fever and small-pox.

The wound of entrance was about five inches to the left of the median line, and two inches above the umbilicus. Believing it to be my duty to *see* where the ball had gone, and what damage it had done, I concluded to operate, rather than put my patient's peritoneum in an opium splint and let him die. After observing strict antiseptic precautions I enlarged the wound, and, following the bullet track, found that the bullet had traversed the subcutaneous tissues two inches before entering the cavity. Stuffing the wound with iodoform gauze, and bringing its edges together with one stitch over the gauze to hold it in place temporarily, I made an incision in the median line from the ensiform cartilage to the umbilicus. Two holes were found in the stomach, the one of entrance being on the anterior surface about three inches directly below the cardia; the hole of exit was on the superior portion of the stomach, just at the junction of the anterior and posterior surfaces, and about an inch and a half from the pylorus. The bullet plowed through the lower margin of the left lobe of the liver at a point an inch and a quarter from the fissue, leaving a V-shaped wound a half inch in depth. I expected to find that the bullet had passed on through the abdominal wall, but the wall was intact. It would have been better for him had such been the case, for it would have added very materially to his chances of recovery, as the uncertainty of the thing compelled me to examine the entire intestinal tract, as well as all the viscera. The intestines, as fast as taken out, were wrapped in cloths wrung out in hot sterilized water—water that had just been thoroughly boiled. The bullet was not found, but there was a slight contusion on the upper surface of the transverse colon, near the hepatic flexure. Billroth says these contusions are nearly always caused by spent balls, balls which have not sufficient momentum to overcome the resistance of the soft parts; if he was correct, the bullet was, doubtless, loose in the abdominal cavity. I did not think the contusion was sufficient to cause sloughing, hence did not deem it necessary to excise it. The wounds in the stomach were closed with Lembert's sutures, three in the wound of entrance and four in the wound of exit. The finest iron dyed silk was used in the smallest quarter curved needle, *i. e.*, the kind usually used by oculists. The wound of the liver was closed by one catgut suture, large size, the point of entrance and exit of suture being an *inch* from the margin of the wound, and entering deeply into the liver substance, probably an inch or more. This precaution was taken on account of the great friability of the tissue. It acted well, bringing the wound together snugly.

There was considerable hæmorrhage from the visceral wounds, especially from that of the liver, which did not cease until they were sutured. The abdominal cavity was flooded with sterilized hot water, and special attention paid to the toilet of the peritoneum. The bullet wound of peritoneum was closed by continuous catgut suture. The visceral wounds were dusted with iodoform, and the cavity closed with heavy silk interrupted sutures, placed about a half inch apart. The stitches were inserted a half or three-quarters of an inch from the line of incision, and involved the integument, muscles, peritoneum, etc. The wound of the abdominal wall, at entrance of bullet, after being washed with a 1-1000 solution of bichloride of mercury, and iodoform dusted on, was closed by continuous catgut suture.

The whole abdominal surface was then thoroughly washed with a 1-1000 bichloride solution and the dressing applied in the following order:

First, Lister protective; second, iodoform gauze; third, absorbent cotton; fourth, gutta percha tissue; fifth, cotton bandages, and sixth, wet crinoline bandages.

The patient coughed a great deal during the operation and vomited four or five times a thick, black, grumous fluid, necessitating turning him on his side each time, which was awkward with an open belly, and to add to the trouble his nose bled freely. This was very annoying and I was afraid would add to the gravity of the case. As soon, however, as the ether was discontinued and chloroform given, these troublesome complications ceased. Operation lasted two hours. Patient was given a fourth of a grain of morphine and put to bed, with hot bottles packed around him.

Two hours after the operation his pulse was 84, temperature 99° respiration 30. His urine was drawn by catheter for several days after the operation. Strict orders were given not to allow him a particle of food, water or ice. Nor did he take a thing into his stomach for four days, when he eluded the vigilance of his nurse, walked across the ward, and drank a tumblerful of ice water. Neither the walk nor the water injured him in the least.

Forty-eight hours after the operation I commenced nourishing him by enemata of peptonized milk. He did not complain of thirst until thirty-six hours after admission, when I adopted the plan advocated by Greig Smith, *i. e.*, gave him a pint of warm water by enema as often as he complained of much thirst. It was rarely ejected and seemed to assuage his thirst. I had not tried it before, and was much pleased with its action.

Thirty hours after the operation an accident happened which came near costing my patient his life. He had been worried for some hours with hiccough, and as we had had good results on the medical side of the hospital in giving sulphate of hyoscyamine to patients with this distressing affection, my assistant gave him 1/120 of a grain hypodermically. In less than half an hour his pulse rose to 160, and was extremely weak; he became unconscious and, in fact, was almost in a collapsed condition. His temperature, which before the injection was 99.2° F. rose to 101.6° F.

He was given whiskey, tincture digitalis, and morphine hypodermically, and hot bottles applied to extremities, which in about two hours restored him to consciousness, after which he rallied rapidly. His temperature and pulse fell in a few hours, and neither again reached 100. We had given patients larger doses of hyoscyamine without the least unpleasant effect. Lauder Brunton gives the dose as 1/60 of a grain to 1 grain.

The patient was annoyed occasionally with a hacking cough which gave him considerable pain. About the fifth day I caught him forcing his hand underneath the dressing, scratching the wound. I immediately removed the dressing under constant irrigation of a warm 1-1000 solution of bichloride, and found it to be in good shape, almost entirely healed by first intention, with the exception of about an inch at the superior portion of the median incision. This was sweet, and gave no indication of suppurating. The wounds were dressed with as thorough antiseptic precautions as at first. On the fourth or fifth day afterwards we discovered a sour odor, and upon examination found the wound was suppurating.

I was, of course, very much chagrined, as it is quite the exception for us to have a suppurating wound, and I can but attribute it to the interference of the patient. He was constantly pulling at the dressing, complaining of its being too tight.

He was not given food by the stomach until the tenth day, when complaining for the first time of being hungry, he was fed beef tea made from Cibil's Ext. of Beef. This was followed in two or three days by chicken broth. He was not allowed solid food until the eighteenth day. He, doubtless, could have taken it without trouble much earlier, but I wanted to make " assurance doubly sure," and hence made haste slowly. He was up and around on the twentieth day, and was discharged well on February 2, 1888. I saw him a few days since and found him in robust health.

Given a case of gunshot wound of the abdomen the surgeon is face to face with one of the most serious and formidable conditions he is ever called upon to treat. He must remember that caution should be the surgeon's watchword when he treads the peritoneal region. To operate, or not to operate, is the question which has been agitating the minds of the surgeons of the world, and, I believe it is safe to say that the vast majority of them believe it better to give the patient the benefit of the doubt, and to operate, rather than hug the delusive phantom of hope that *perhaps* the ball did that almost impossible thing —went through the abdomen without hitting the intestines or wounding important viscera.

Those who would call a halt in laparotomy for gunshot wounds of the abdomen have little to offer but the mortality tables of the past. The percentage of recoveries has been much greater since the introduction of laparotomy, and that, too, when the operation is in its infancy. How much greater will be our success when we learn more about the technique of the operation, and are better judges of the indications, as well as contra-indications, for the same ? By the use of antiseptic and aseptic surgery, we are enabled to invade the abdominal cavity with far greater impunity than formerly. I believe with Senn, that we should perform laparotomy in all doubtful cases for the arrest of hæmorrhage, removal of extravasations, or the restoration of a breach of continuity.

Dennis says: "Bearing in mind the difficulty of diagnosticating the extent of the injury, and the inevitable fatal result of leaving to itself any perforation of the intestinal tract, and, holding that laparotomy performed with strict antiseptic precautions is not a *very* serious operation, I would advocate the procedure in doubtful cases as a diagnostic measure, and for the purpose of exploring thoroughly the contents of the abdominal cavity.

I attribute the fortunate results in this case to several things, first, the age of the patient, 22 years old ; second, his color, for it has been demonstrated that the negro recovers from injuries of all kinds better than his Caucasian brother ; third, the promptness of the operation—two hours after the injury ; fourth, the strict antisepsis ; fifth, the skilled and drilled assistants and attendants, and all the necessary paraphernalia of a well regulated hospital.

I desire particularly to lay stress on the necessitity, when suturing the liver of placing the sutures a good distance from the edge of the wound, and of carrying them *deeply* into the substance of the liver.

I have collected from all sources 69 cases with 27 recoveries and 41 deaths—in one, result not given—a grand result, all things considered

—especially when we remember that under the "do nothing" treatment less that eight per cent. recovered, and it is quite likely that in some of these cases neither the cavity nor the viscera were penetrated.

I have examined all the literature I can find on the subject of laparotomy for gunshot wounds, and have not been able to discover that the liver has been successfully sutured in such cases, and I think I am justified in claiming priority in the matter.—*Annals of Surgery.*

CASE OF RUPTURE OF GALL BLADDER: CHOLECYSTECTOMY: SUBSEQUENT OBSTRUCTION OF COMMON BILE DUCT BY OVERLOOKED IMPACTED CALCULUS: DEATH.—By Archibald Dixon, M.D., of Henderson, Ky.

On the night of August 20th, 1886, a white male, æt. 32 years, while in a state of intoxication, fell from the third floor of a hotel to the cellar, through the shaft of the elevator. He was taken up in a comatose condition and carried to his room, where I found him a short time after the accident. He had rallied somewhat, but was vomiting and suffering profoundly from shock, with some symptoms of concussion—a hypodermic of morphine, ½ gr., and atropia, 1/120 gr. was administered, and in a short time he had sufficiently revived to be able to speak. He had no recollection of having fallen through the elevator shaft, but complained of intense pain in the back and loins and over the right hypochondrium.

Examination revealed a dislocation of the ninth and tenth ribs of the left side, and fracture of the spinous process of the tenth dorsal vertebra. The back, and the left lower extremity were badly bruised and contused, but no other fracture or dislocation was discoverable. On the morning of the 21st, the patient complained of abdominal pains, occasionally accentuated over the right hypochondrium—temp. 101½° with corresponding pulse of fair strength—slight tenderness over the abdomen, but not more than could have been expected under the circumstances. No material change occurred in his condition, until the morning of the 28th, when the temperature was found to be 103°—abdominal tenderness almost entirely confined to the right lumbar region, with moderate tympanites over the entire abdomen. A careful examination revealed a slight enlargement with dulness on percussion, a little to the right and above the cæcum. Thinking that perhaps I had a perityphlitis to deal with, and the sudden rise of temperature, accompanied by rigor, making it probable that pus had formed, an aspirating needle was introduced, and a quantity of red, yellowish fluid withdrawn, having much the appearance of bile. The question presented itself as to whether this fluid was composed of disintegrated blood and peritoneal serum, or was it bile. The solution of the question was arrived at by tasting the fluid, which was undoubtedly bile.

It was now evident that, in the fall, the patient had sustained a rupture of the gall-bladder, or of one of the bile ducts, with probable fracture of the liver, and the escaping bile had passed down along the posterior border of the ascending colon—extra-peritoneally—to the point of aspiration. An exploratory operation was decided upon and was made the afternoon of the same day (August 28th), Dr. A. R. Jenkins assisting me.

An incision was made, after the method of Langenbuch, twelve or fifteen centimetres in length along the external border of the rectus abdominis; this was met by a second incision along the lower margin of the ribs—ten centimetres in length, extending towards the ensiform cartilage—the peritoneum was opened and a tumor of hyperplastic connective tissue, deeply tinged and saturated with bile, the size of a hen's egg, was brought into view—the gall-bladder was found completely collapsed and imbedded in this neoplasm which was underneath and external to the peritoneum.

The connection between the colon and the retro-peritoneal portion of the duodenum was broken up and the ducts exposed; the integrity of these was not destroyed, and a sufficiently careful search was, *presumably*, made for any stone or stones which might lie within them; none were found. The gall-bladder was now separated from the liver and it was found that the rupture was of such a character, as to render extremely doubtful the chances of its successful repair and it was decided to remove the gall-bladder entire. Accordingly the cystic duct was ligated with heavy carbolized silk, and the gall-bladder removed, partly by cutting and partly by the Paquelin cautery; the adjacent tissues were brought over the stump and stitched with carbolized catgut. The external wound was closed by deep peritoneal (catgut), and superficial sutures (silk), dusted over with iodoform and covered with cotton wool, a binder over all. It is unnecessary to go into detail, but it suffices to say that, the strictest antisepsis, so far as in our power lay, was maintained throughout, the peritoneal cavity being protected by sterilized sponges wrung out of warm carbolized water. The patient suffered much from shock and nausea, vomiting a dark grumous looking fluid—the nausea, in all probability, being largely due to ether—and did not fully react for over an hour. The patient did fairly well—temperature, morning after the operation, 101½°, and it did not reach above this point, until September 7, ten days after the operation, when it marked 103° in the evening. The dressing was removed on the 6th, and the wound found to have healed, *prima intentione*. On September 6th, the day the wound was redressed, a slight diarrhœa was noticed, which had much increased on the 7th notwithstanding, active measures had been taken to suppress it. This diarrhœa was greyish in color, desquamative, slightly purulent and distinctly alcoholic in character, the actions, towards the last, becoming large and involuntary.

Slight icterus had been noted previous to the inauguration of the diarrhœa, which increased in intensity, day by day, until the patient was thoroughly and completely jaundiced. Death took place September 14th, seventeen days after the removal of the gall-bladder and twenty-five days from the date of the accident.

The post-mortem was made nine hours after death by Dr. Jenkins and is given by him as follows:

Obductio cadaveris. Patient small of figure, intensely jaundiced and much emaciated. Inspection of abdomen showed a recently cicatrized wound, corresponding to that described in the foregoing text. Section from chin to pubes; connective tissue, fat and muscles of abdomen pale and anæmic. Abdominal cavity being opened, the intestines and omentum appeared anæmic. The former tympanitic in the highest degree. There was nothing abnormal in the quantity or quality, apparently, of the peritoneal serum, the entire cavity being guiltless of bile stain save at the point of wound. The omentum was adherent to the ascending colon and the small intestines on the entire right side, by new hyperplastic tissue, and connected closely to the parietal peritoneum at the situation of the wound. Section through the cicatrized parietal wound revealed the catgut *in situ* and unchanged. The stump of the cystic duct was found lying as left, and encapsulated with bile colored hyperplastic connective tissue. Catgut unchanged. The ductus choledochus and hepaticus were greatly distended. The duodenum was laid open and pressure made on the distended gall ducts, with negative result; there was no coloration of the lumen of the gut by bile and the orifice of the common duct was with difficulty found. Just above the orifice a hard body was felt, contained within the duct, which on being opened permitted two calculi, the size of filberts, to be removed. The interstitium of the duct was callous and thickened by a connective tissue proliferation throughout its entire extent and appeared impassible to the stones, although the point of a small myrtle leaf sound passed below into the gut, the condition simulating, in a marked degree, callous stricture of the male urethra. One ulcer (*ulcus decubitus*) marked the site of the foremost concrement. Section through liver showed deep bile staining of parenchyma, (icterus viridis), (individual cells were also stained), (slight *stanungs leber*). Colossal dilation of all gall ducts, both large and remote, containing a stringy, gelatinous fluid (hydrops duct. bilfer). Medium grade of nutmeg atrophy. No evidence of traumatism. Intestinal contents throughout grey, gassy and purulent, loaded with desquamative epithelium; the mucosa of the entire tract had the appearance of having been scoured. No ulceration. Slight grade of *nephritis parenchymatosa*. Several embolic (?) hæmorrhagic infarcti. Coagulative necrosis, (*arteriolæ rectæ* and cortex). The bile was found to have dissected down the ascending colon to the point of aspiration and below the cæcum into and through the fascia iliaca and transversa, around Poupart's ligament.

The section was made under unusual difficulties and no proctocol was taken and this description prepared, for the most part, from memory."

The post-mortem revealed the cause of this jaundice by the obstruction to the common duct. As mentioned, in the foregoing, a *presumably* sufficient search was made within the gall-bladder itself, and also along the ducts, for any stone or stones, but none were found. I now think that the calculi were within the gall-bladder at the time of its rupture, and were, perhaps, forced out of it and down into the common duct, so far as to have been overlooked. I regret very much that the stones were not found and removed, thereby giving the patient a much better chance for recovery. At the time the icterus made its appearance, the propriety of opening up the external wound, and, if possible, removing the obstruction to the flow of bile into the intestines was canvassed, but thinking the occlusion due to some inflammatory process which might possibly subside in a few days it was deemed best to wait. Getting down to the duodenal connection of the common duct, is a matter of more difficulty than would seem, and those who attempt it will, perhaps, realize the truth of the assertion: Experience is a bitter teacher, but she teaches well. Perhaps the most remarkable feature of the case was the fracture of the gall-bladder and the escape of the bile along the posterior border of the ascending colon, *extra-peritoneally*. This was proven beyond a doubt by the post-mortem find.

TWO CASES OF PENETRATING (HORN AND SCYTHE) WOUNDS OF THE ABDOMEN WITH PROTRUSION OF VISCERA. By Dr. D. Bekleinsheff (Russia).

I. A peasant boy, æt. 13 years, when attempting to lead away a new born calf from an angry cow, was gored by the latter in the right groin, an intestinal loop protruding from the wound. The latter measuring 3½ cm., was without delay and without reducing the loop "whip-stitched" by a local *znakharka* ("wise woman") with coarse darning threads as used by peasantry. Five hours later Dr. Bekleinsheff found the boy quietly lying on the floor in the cottage's hall and complaining only of pain in the groin where a large subcutaneous tumor was seen. Having brought the patient under the influence of chloroform with the assistance of a medical student, Dr. Bekleinsheff cut through the preliminary sutures. A number of intestinal loops suddenly escaped from, and became fixed in the wound. A slight enlargement of the latter proved necessary to return them into the abdomen. Scarcely could the last loop be reduced, when a strong jet of blood gushed out of the wound. Without searching for the source of the bleeding, the writer promptly stitched the lesion and, after covering the part with numerous layers of compresses and wadding, tightly bandaged the whole abdomen. The boy commenced to get up on the seventh day and was quite well in three weeks. No pain, no fever—in short nothing abnormal could be observed during his rapid convalescence.

II. A male peasant, æt. 35 years, lay in a drunken sleep with his scythe. When he awoke on the next morning, he found that "there was something sticking out of his belly." Twenty-four hours later he was brought to the author without complaining of anything in particular, beyond the phenomenon just named. There was seen in his left groin a clean-cut wound 3½ cm. long, from which a piece of the omentum measuring about 9 cm. in height and richly covered with debris, was protruding. The prolapsed part was tightly tied at its base with catgut and cut away above the ligature, after which the pedicle was thoroughly disinfected and returned into the abdomen, and the wound sutured, dressed with iodoform and covered with ice-bag. The wound healed *per priman* about the fifth day. There was never any fever or pain. On the seventh day the man walked away. —*Meditzinskoië Obozrenïë*, No. 2, 1888.

HYGIENE.

RECENT ADVANCES IN THE DISINFECTION OF DWELLINGS AS ILLUSTRATED BY THE BERLIN RULES. By Theobald Smith, M.D., Washington, D. C.

Since the beginning of the present decade the practical study of infectious agents, with a view to their control and destruction, has taken two different directions. Pasteur and his pupils have been preoccupied with investigations concerning preventive inoculation which is to protect the animal body in the event of an invasion of pathogenetic micro-organisms against their multiplication, and consequently against the outbreak of the disease. Koch and his school on the other hand, heeding but slightly the experiments of the French, and placing little value upon the practical results obtained, have directed their attention toward the successful extermination of disease-germs outside of the body. Their laborious researches have placed the whole matter of disinfection on a basis more secure than it has ever been on before, from which, most probably, it will not be shaken by whatever information future researches may bring to light. More recently there has been manifested great activity on the part of the French also, and in fact among most European states, concerning the subject of disinfection, not only as applied to hospitals, but also to infectious diseases occurring among the inhabitants of cities, towns, and smaller communities.

In the disinfection of sick-rooms in private dwellings, as well as in hospitals, we have to deal not only with the walls of the room, but with its contents, usually of such a varied character. This problem, therefore, requires the application of different modes of disinfection, since manifestly all the objects can not be exposed to the same treatment. The ripe fruit of the painstaking work of R. Koch and others in this field is now before us in the shape of a small pamphlet,* issued by the authorities of the city of Berlin, and known as the ordinance of February 7, 1887. This gives directions with reference to disinfection during and after infectious diseases as it is to be carried out in the infected dwellings of the city. As the contents of this pamphlet have not yet been brought prominently into notice in this country, it seems desirable to give them very briefly, together with a few remarks illustrating the gradual crystallization of the rules there laid down.

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* "Anweisung zum Desinfectionsverfahren bei Volkskrankheiten." Amtliche Ausgabe. Berlin, 1887. A. W. Hayns Erben. Pp. 14. See, also, "Deutsche Vierteljahrschrift f. öffentliche Gesundheitspflege," xix., 1887, 144, for the same rules, with explanatory remarks by M. Pistor.

The ordinance divides infectious diseases into two classes (given below, § 2). For the first, disinfection is made obligatory. For the second, it may be enforced at the discretion of the police authorities. Failure to obey the rules laid down is punishable by a fine of thirty marks or less and the cost of disinfection. The directions for disinfection are given clearly and explicitly. The most important are translated literally in the following summary:

§ 1. The object of disinfection is to prevent the spread of infectious diseases by destroying or making innocuous infectious germs.

§ 2. Infectious diseases are divided for this purpose into two classes:

a. Those which absolutely require disinfection: 1, Asiatic cholera; 2, small-pox (genuine and modified); 3, typhus and relapsing fever; 4, diphtheria.

b. Those for which disinfection may be made obligatory upon a special order, but for which it is urgently recommended: 5, typhoid fever; 6, scarlatina; 7, epidemic dysentery; 8, measles; 9, whooping-cough; 10, phthisis (*Lungenschwindsucht*).

§ 3. Disinfection consists in

1. Scrupulous cleanliness of the patient, his living and dead surroundings, the sick-room and its entire contents.

2. Abundant and frequent renewal of air in the sick-room.

3. Immediate removal and destruction of infectious matter and useless articles.

Process of Disinfection.—§ 5. 1. For the maintenance of cleanliness, the patient must undergo daily ablution; there should be frequent—daily, if possible—change of clothing and bedding; immediate removal of soiled linen and daily cleansing of the sick-chamber with moist cloths, which should be placed immediately after use in boiling water for half an hour.

2. Ventilation of the occupied chamber is accomplished by the frequent and prolonged opening of windows and of the stove, heated *from within;* when the weather is cold, the open windows should be covered by a curtain.

3. For the destruction of infectious matter are used:

a. Streaming, superheated steam in the disinfection establishments erected by the city of Berlin.

b. Boiling in water for half an hour.

c. A five per cent. solution of carbolic acid.

d. A two per cent. solution of carbolic acid (the method of preparation is also given).

e. Burning of worthless articles.

§ 6. Recommends the isolation of the sick-room and forbids the subsequent removal of any articles therefrom, unless disinfected. All linen, cloths used to wipe objects in the room, should not be shaken, but placed immediately in a two per cent. solution of carbolic acid for twenty-four hours, then boiled for half an hour in water, and washed in a solution of soap containing twenty grammes of potash (black or green) soap to ten litres of water.

§ 7. All excretions of cholera, typhoid, diphtheria, scarlatina, and dysentery are received into vessels one fourth full of five per cent. carbolic acid. These are emptied into (water) closets.

Under this section are included:

In cholera, vomited matter, dejections, and urine.

In diphtheria and scarlatina, expectoration, nasal mucus, and urine.

In all forms of typhus fevers and in epidemic dysentery, the stools.

Water-closets should not be used by the sick. Should they have been used, however, the seats and hoppers should be scrubbed with a five per cent. solution of carbolic acid, and the latter rinsed with three or four litres of the same solution.

§ 8. Food and drink must not be kept in the sick-room, nor consumed there by any one save the patient.

§ 9. Soiled bandages must be burned immediately; instruments cleaned in a five per cent. solution of carbolic acid.

§ 10. Bad odors should be removed solely by removing their source and by frequent airing. Perfumes simply conceal, but neither remove odors nor disinfect.

§ 11. At the close of the disease, all articles which cannot be washed—such as clothing, bedding, pillows, spreads, silk goods, carpets, furs, upholstered articles without external veneering—are *very cautiously* (*i. e.*, without shaking or beating them) tied up in a linen cloth moistened with a two-per-cent. solution of carbolic acid, and sent to one of the municipal disinfecting stations in their wagons. Soiled leather (shoes) must be disinfected with five per cent. solution of carbolic acid.

§ 12. Refers to the burning of worthless material (bed-straw, clothing, etc.) in the kitchen stove, upon which there must be no food at the time. More bulky material is to be disposed of by the disinfecting station.*

§ 13. Polished and carved furniture, pictures, metallic articles, and works of art are to be rubbed carefully with dry cloths, papered as well as painted walls carefully with dry bread after the floor has been thoroughly moistened with a five per cent. solution of carbolic acid.

Those places on the walls which have been soiled by expectoration, etc., are to be moistened with a five per cent. solution of carbolic acid and carefully scraped.

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* This rule seems to me an objectionable one, as it permits infected articles to be dragged through the house, and very likely more or less scattered before they are burnt up. All useless, unsuspected material should be disposed of by the stations.

All floors, without exception, doors, windows, as well as all woodwork without polish, are to be thoroughly scrubbed with a five per cent. solution of carbolic acid after cholera, small-pox, diphtheria, typhus, and relapsing fever. The disinfectant should be allowed to penetrate the cracks in the floor, and the whole finally washed with clear water.

The bread used in rubbing off the walls, and the cloths are burned; or, if still useful, they are treated according to § 6.

§ 14. Prescribes, lastly, the airing of the disinfected rooms for twenty-four hours after cholera, diphtheria, small-pox, typhus and relapsing fever.

§ 15. Forbids the use of public conveyances for those infected with any of the eight first diseases of § 2, and calls attention to conveyances specially set apart for such patients.

§ 16. Convalescents before associating with others must first take a warm soap bath, or, if this is impossible, the whole body must be thoroughly cleansed with soap and water, and only those garments put on which have not been used during the illness, or which have been disinfected.

§ 17. The bodies of those who have died of cholera, small-pox, diphtheria, dysentery, or typhus fever must be wrapped, *without being washed*, in a cloth saturated with a five per cent. solution of carbolic acid before being placed in the coffin, and speedily removed to some building for the reception of the dead previous to their interment (*Leichenhalle*).

§ 18. Prescribes that all who have come in contact with patients affected with cholera, small-pox, diphtheria, scarlatina, typhus and relapsing fever should immediately after wash their hands in two-per cent. solution of carbolic acid. Nurses should carefully cleanse face, beard, and hair. It also prescribes that disinfectors must wear a special suit of clothing during their work, and that they, as well as nurses, must, when the work is done, change their entire dress.

§ 19. The directions included in §§ 13 to 18 are carried out in those cases also (§ 2, *b*) in which disinfection is conducted under a special order of the authorities.

§ 20. If disinfection has not been prescribed in typhoid, scarlatina, or dysentery, it is to take place, as with measles, whooping-cough, and phthisis, at the discretion of the physician.

To these instructions is appended an announcement with reference to their execution by specially appointed disinfectors. It regulates their compensation, and prescribes the penalty in case of neglect or carelessness.

These rules are of interest to us in formulating for the first time the most advanced methods of disinfection as applied to dwelling-places which had hitherto not received very much attention in this respect. It is not left in the hands and at the discretion of the attending physician, but is made compulsory. The attention of the public is thus forcibly directed to them, and they become common property. The whole subject in this aspect must, nevertheless, be considered an experiment, for the carrying out of which we must be thankful to the sanitary authorities of Berlin. There are some paragraphs in these rules which may seem quite superfluous to us. But we must bear in mind that they are intended to reach the lower classes, and therefore the simplest methods are not only stated in the simplest language, but certain facts concerning cleanliness, presumably familiar to all intelligent people, are inserted as of the utmost importance, being in themselves measures of disinfection.

It is of interest to trace in the various publications of experiments on disinfectants since 1881 the gradual development of these rules through their numerous intermediate stages, which have had their day, and to note how slowly but surely the reliable means of disinfection have been narrowed down to a few.

First, as to the room itself. Naturally a gaseous agent suggested itself to the earlier investigators*—one that might penetrate into all the minute hidden recesses and crevices not readily accessible to liquids. Sulphur dioxide or burning sulphur was found inadequate, owing to its very feeble germicide properties. Chlorine, also employed for a time, was found unsatisfactory, in spite of its high disinfectant power in combination with moisture, on account of its feeble penetrating capacity. It was unable to kill bacteria loosely wrapped in a coat pocket. It also ruined wearing apparel. Finally, it was difficult to make a room sufficiently tight to prevent the premature dissipation of the gas. Gaseous substances have, therefore, been given up entirely.

Subsequent investigations † aimed at the utilization of some powerful disinfectant in solution which was to be sprayed upon the bounding surfaces of the room. Mercuric chloride in a $^1/_{10}$ per cent. solution was tried and found effective. But it was impossible for sanitarians to shut their eyes to the fact that there was a large quantity of a highly poisonous substance left in the room. Efforts were made to rid the walls of the mercuric chloride by spraying them subsequently with sodium carbonate, which forms an insoluble oxychloride of mercury. This is readily swept from the walls as a crystalline powder. But the poisonous nature of the corrosive sublimate has prevented its extended application, and carbolic acid, as we have seen, has superseded it in the Berlin rules. Esmarch, ‡ in a painstaking investigation determined the curious fact that if walls were simply rubbed with bread, all the adherent germs were caught on the bread. This simple procedure was found even superior to washing the walls with a five per cent. solution of carbolic acid or a $^1/_{10}$ per cent. solution of mercuric chloride, and has therefore been recommended in the rules.

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*See "Mittheilungen a. d. kaiserlicken Gesundheitsamte," i ii, *passim*.

†Gutmann, P., "Ueber Desinfection von Wohnungen," "Arch. f. path. Anatomie," etc., cvii, 1887, p. 459. Krupin, "Ueber Desinfection von Wohnräumen," "Zeitschr. f. Hygiene," iii 1887, p. 219.

‡ "Der Keimgehalt d. Wände u. ihre Desinfection," "Zeitschr. f. Hygiene," ii, 1887, p. 491.

There are other objections to the use of mercuric chloride, such as the formation of precipitates with albuminous substances, rendering it partly inert. Where such objections may be disregarded, it still holds an important place as one of the most powerful germicides. In the disinfection of the holds of vessels it has been recommended by the Prussian Government on the basis of experiments made by Koch,* and its application carefully formulated.†

Perhaps the so-called crude carbolic acid—a dark, thick liquid said to contain about twenty-five per cent. of phenol—may in part replace the expensive pure acid now in use. Laplace, ‡ in endeavoring to utilize this liquid, found that it failed to dissolve in water. When, however, an equal volume of sulphuric acid was added to it, the mixture became soluble, and a four per cent. solution was found superior to a five per cent. solution of pure carbolic acid in its action on anthrax spores. Before its true place can be determined it will require testing in various directions. In using it, it is well to bear in mind that on the one hand sulphuric acid is in itself a powerful germicide, and on the other it may be corrosive with reference to certain articles. The cheapness of crude carbolic acid § will make it a welcome addition to the list of available disinfectants.

In a recent order the Prussian Government has recognized its value in recommending it together with ordinary lime as a disinfectant in combating the unsanitary condition produced in dwellings by floods in the eastern provinces. Liborius ‖ had demonstrated the efficiency of slaked or powdered lime in destroying typhoid and cholera bacilli, the amount required depending upon the quantity of albuminous and other organic matter present. I have been able to fully confirm his results upon another microbe not producing spores. When organic matter is absent these bacteria are destroyed in lime-water diluted to one-fourth its strength (about .03 per cent). When large quantities of albuminous matter are present, as much as from four to five per cent. may be necessary. Whitewash as ordinarily used is much more concentrated than this, however. Lime will therefore prove a very valuable agent in disinfecting the surface of the soil, and in the form of whitewash for the poorer classes. That it will not destroy spores does not materially diminish its value, since a pathogenic spore incrusted with carbonate of calcium and fixed to the walls of a room is not likely to create further mischief. More attention should, therefore, be paid by sanitarians to the use of lime in preference to wall-paper for the poorer classes, owing to this very germicide and fixing power.

Passing from the room to its contents, the objects needing sterilization most urgently are bedding and clothing, since they are most liable to contain the infectious elements. The discussion as to the best means of destroying them brings up the very important problem of disinfection by heat. It has been shown by Koch and others that dry, hot air is to be rejected, since it penetrates very slowly into large bundles. The high temperature (140° C.) required, together with the long exposure (several hours), is apt to permanently injure the exposed objects. Moist heat was next tried and found very efficient in the form of steam at 100° C., such as escapes from boiling water under the ordinary atmospheric pressure. Steam under increased pressure in a closed boiler was found to suffer in part under the same disadvantage which had been observed in connection with dry heated air—that is, the slowness with which the heat penetrates into the interior of large bundles.

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* "Arbeiten a. d. kaiserlichen Gesundheitsamte," i, 1886, p. 199.

† "Anleitung z. Desinfection u. z. Desodorisation S. M. Schiffe u. Fahrzeuge." Berlin: Mittler u. Sohn.

‡ "Deutsche medicinische Wochenschrift," 1888, p. 121.

§ Quoted at ninety cents a gallon.

‖ "Zeitschrift f. Hygiene," ii, 1887, p. 15.

Disinfecting boilers are now being constructed* which utilize the principle of streaming, slightly superheated steam freely escaping from a small opening in the upper portion of the disinfecting boiler. An exposure varying from one to two hours is usually sufficient for complete disinfection. In these the steam is formed, in a separate boiler, under a pressure of about three atmospheres. Geneste, Herscher & Co., of Paris, have constructed a slightly different disinfecting apparatus which bids fair to outrank the former. It is used throughout France, as well as in other European states. It utilizes steam under pressure, thereby giving an internal temperature of 110° to 115° C. In order to obviate the objections which have been made to the use of steam under pressure, the latter is discharged once or twice during the process of disinfection until the temperature falls to 100° C. All the residual air inclosed in the interior of bundles, mattresses, etc., is thereby driven out and replaced by steam. Salomonsen† and Levison have recently subjected this apparatus to a very rigorous test, making use of the spores of *Bacillus subtilis* and various earth bacilli as test objects. They found a period of twenty minutes sufficient for the destruction of all spores, provided the steam was exhausted twice. There are thus in active use three forms of apparatus: 1. The simplest: ‡ using streaming steam from boiling water. 2. Those using streaming superheated steam from a separate boiler (Berlin). 3. Those using steam under pressure with the means of exhausting (Paris).

There has also been a slight change in views as to what should constitute thorough disinfection. In the earlier experiments Koch suggested that disinfection should not be considered complete unless the most resistant spore-forms known had been destroyed. Since then several species of bacilli have been studied whose spores display such a remarkable power of resistance to boiling water that they are only destroyed after an immersion lasting from three to five hours.§ It is now coming to be accepted that an exposure which destroys the most resistant pathogenetic forms known, such an anthrax spores, is sufficient. This modification is timely in view of the fact that the great resistance of the earth-bacilli spores would make disinfection on a large scale practically impossible. Moreover, none of the many pathogenetic bacteria which have been described within the past few years exceed the resisting power of anthrax spores, while very few may be considered equal to it, such as the spores of malignant œdema, and *charbon symptomatique* among animal diseases, and tuberculosis.—*N. Y. Med. Jour.*

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* By O. Schimmel & Co., Chemnitz, Saxony, and used in the disinfection establishments of the city of Berlin.

† "Versuche mit verschiedenen Desinfectionsapparaten," "Zeitschrift f. Hygiene," vi, 1888, p. 94.

‡ Esmarch. "Der Henneberg'sche Desinfector," *l. c.*, ii, 1887, p. 342.

§ Globig, "Zeitschrift f. Hygiene," iii, 1883, p. 322.

PROCEEDINGS OF SOCIETIES.

Congress for the Study of Tuberculosis.

Held at Paris, France, July 25–31, 1888.

The first session of this important gathering whose recent organization, with Chauveau for President Verneuil and Villemin for Vice-Presidents, is one of the indices of the progress of the age in experimental pathology, was held in the amphitheatre of the *Ecole de Medicine*, Paris, July 25th to the 31st ult. There was a fitness in the election to the highest office in this Congress, of two men who have done so much to advance our knowledge of the true nature of tuberculosis ; Villemin, who may be said to have been the pioneer in researches of this kind, having been the first to prove the infectiousness of tubercle ; and Chauveau who was the first to confirm Villemin's discovery, to demonstrate the transmission of tubercle by the digestive passages, and show the difference which exist between true and false tubercle.

The work of the first day consisted in the opening address by Chauveau, in which he gave a history of the recent researches which have led to the present doctrine of the infectiousness and microbic nature of tubercle. The identity of human and bovine tuberculosis, and that of other animal species is now everywhere admitted, and the notion, now proved true by innumerable experiments of the transmissibility of this disease from one species to another, has been fruitful in practical consequences. It is on this account that veternaries and physicians are forming associations to find out what measures may be adopted to preserve society from this dire scourge.

M. Cornil, whose labors in pathological histology are so well-known, read a paper on

THE TRANSMISSION OF TUBERCULOUS INFECTION BY THE MUCOUS MEMBRANES.

In order that the tubercle bacilli may penetrate the tissues by the mucous surfaces, it is not necessary that the latter should be the seat of lesions, excoriations, or fissures. Chauveau, Villemin and Bollinger had determined tuberculous intestinal lesions in animals which had ingested milk containing bacilli, and even the cultures of these bacilli. Tappenier, Schottelin and Theon have also caused the production of tubercles in the lungs, by making animals inhale liquids holding tuberculous matters in suspension. Cornil has witnessed the development of tubercles in the uteri of hares, in which he had introduced a few drops of the culture of tubercle bacilli. These were visible after twelve days, and after thirty-two days the lesions had spread to the neighboring tissues. This inoculation was produced without the least abrasion of the epithelial covering, which often remained intact, despite the continuous development of tubercle granula.

Cornil has seen tuberculosis in the human female localized in the cervix uteri, with the lesions of chronic catarrh, and tubercle granules with giant cells below the intact epithelium.

M. Nocard, of Alfort, read a paper on

THE DANGERS ARISING FROM THE USE OF MEAT AND MILK FROM TUBERCULOUS ANIMALS.

There is no doubt as to the possible contamination by bacilli of milk. As a certain percentage of milch cows are tuberculous, it is expected always to boil before using it, the milk served in cities. The sale of milk from cows known to be tuberculous, should be absolutely interdicted.

The same may be said of meat, though the juice of flesh of tuberculous animals, is rarely capable of determining tuberculosis. Out of forty guinea pigs which Nocard had inoculated with one cubic centimetre of the juice of meat from tuberculous cows, only one became tuberculous (succumbing fifty-seven days after the injection). It seems, then, that in some rare cases tuberculosis is a disease *totius substantiæ*, but this generalization of the malady is but transient, the blood and muscular juice very rapidly ceasing to be virulent. Experiments on cats (an animal known to be susceptible to tuberculosis) which were made to ingest tuberculous meat, and not one of which became tuberculous, have shown the comparatively little danger there is from this source. Cooking, moreover, of course renders such meat much less virulent.

The greater part of the following day (July 26th) was devoted to the discussion of the paper of M. Nocard. During this discussion many important facts were brought out. Baillet, of Bordeaux, thought that the meat of tuberculous animals played but a trifling role in the transmission of tuberculosis to man : thus, at the slaughter-houses of Bordeaux, out of 22,000 head of cattle only forty were found which were tuberculous ; by the side of this small number of sick animals, the official statistics give 1,000 phthisical persons to a population of 250,000. It would seem from this that the influence of diseased meat on the propagation of tuberculosis in the human race plays a decidedly secondary role. M. Spellmann, of Nancy, said that tuberculosis was very frequent in the stables of Hautes-Vosges, the mortality of cows from phthisis being thirty to forty per cent. The meat of these animals, bought at a low price and offered for sale in the neighboring towns, constitutes a permanent danger of infection.

Guiraud, of Montanban, stated that at Montanban it had been found that there was one phthisical animal to every 245 head of cattle ; while Villain, of Paris, said that in the metropolis of France the proportion of phthisical animals is 6 per 1,000, at least, for the abattoirs of Villette and of Grenelle. Thomassen, of Utrecht, Holland, gave some statistics as to the prevalence of tuberculosis among cattle in Holland ; this is one half per cent. With respect to swine, the percentage is somewhat higher. Liegen, of Luxemburg, had succeeded in tuberculizing four hogs by giving them meat to eat from a tuberculous cow. Robinson, of Grenock, Scotland, spoke in favor of a total interdiction of tuberculous meat. Guinard, of Dijon, alluded in severe terms of condemnation to a custom prevalent in some localities among anæmic patients, of resorting to the abattoirs to follow out a line of treatment which consists in drinking the blood of an animal just killed.

The Congress voted a resolution condemnatory of the use of all meats from tuberculous animals and recommending the seizure and destruction of such animals, but a principle of indemnity to the owners was also recommended.

At the evening session, July 27th, M. De Brun, of Beirut, gave an address on

PULMONARY TUBERCULOSIS IN SYRIA.

Formerly phthisis was rare in Beirut when malaria was rife. Latterly, the marshes have been drained and rendered salubrious, the land cleared and cultivated ; the result has been a comparative disappearance of the malaria, but at the same time phthisis has appeared and is now making ravages among the population. The often alleged antagonism between tuberculosis and malaria thus seems to find exemplification. Observations made in other parts of the East and in Egypt, agree perfectly with the facts noted by Dr. De Brun in Beirut, The climate of Syria, on the whole, seems particularly favorable to the development of phthisis, which prevails in an especially rapid form wherever malaria has not already had the ascendency.

MM. Chautemesse and Widal, of Paris, made a communication on

THE PERSISTENCE OF THE GERMS OF TUBERCULOSIS IN RIVER WATER.

The results of an elaborate series of experiments were these : that the germs of tuberculosis remain alive for fifty days in Seine water sterilized and kept at a temperature between 8° and 12° C., and seventy days in Seine water kept at 15° to 18° C. This is one aspect of the question ; another series of experiments show that they do not preserve their virulence or, if at all, to a very feeble degree, the result of inoculation of this water in animals being *nil*.

On the other hand, Galtur and Cedeac have been more successful with their inoculations of tuberculous matter kept in standing and in running water. They placed fragments of tubercle in water that was incessantly renewed, and other fragments in standing water, then cultures were attempted with these liquids. The running water gave positive results from inoculations a month and a half after the beginning of the experiment, while the stagnant water was inoculated with success one hundred and twenty days afterwards.

M. Arloing made a report on

THE LOCAL AND GENERAL MEANS CAPABLE OF ARRESTING THE EXTENSION OF EXPERIMENTAL TUBERCULOSIS.

He first endeavored to arrest the march of tuberculosis in the same way as some have proposed to stay the progress of syphilis, by the extirpation of the local lesion and the neighboring glands. This is an experiment which is quite easy of execution in guinea pigs, where the inoculation is made in the mammary gland. All the animals that were the subjects of this early extirpation of lesion and glands were found, on killing them after a certain number of weeks, to be tuberculized to the same degree as an equal number of animals, which were inoculated at the same time, but without subsequent extirpation of the primary centres of infection. In a second series of experiments he practiced the excision at the point of inoculation on the sixth day, when there was no swelling to indicate the success of the inoculation, but the tuberculosis none the less pursued its course and became general. He also tried the inoculation of what he supposed might be *attenuated virus*, that is, scrofulous matter; but "alongside of a positive scrofulous inoculation," he found that he could succeed perfectly with "an inoculation of true tuberculous virus, capable of producing the disorders of tuberculosis." Cornil and Babes had previously published results of this kind. Finally, thinking that the action of certain antagonistic microbes might neutralize the morbid effects of the tuberculous virus, he attempted in guinea pigs the inoculation of typhoid fever virus, but found "that the animals the most saturated with typhoid virus were still perfectly susceptible of contracting tuberculosis," and were in no degree exempt by being victims of another infection.

THE BACTERIAL ASSOCIATIONS OF THE TUBERCLE BACILLUS.

M. Babes, of Bucharest, read a paper with the above title. In certain diseases, and especially in localized affections, such as tuberculous arthritis or osteitis, there exists an intimate association between the specific microbes of tuberculous and other microbes. The tuberculous lesions open the way for other bacteria which remain distinct from Koch's bacillus or form with it special products. In these cases this composite microbe is found in more or less intimate relation to the tuberculous products. These foreign microbes are often instrumental in awaking to activity a lateral tuberculosis.

M. Duret, of Lille, spoke of

GLANDULAR TUBERCULOSIS.

Tuberculosis of the glands comprehends three clinical forms, each demanding different treatment: (1) The fibro-caseous form; (2) the caseo-tuberculous form; (3) the ulcerative or fistulous form.

In the fibrous form, the only rational method is extirpation. The second form demands igni-puncture or crucial cauterizations. The third form is best treated by the thermo-cautery, which should be pressed down to the bottom of the suppurating cavities, with thorough destruction of the fistulous tracts.

PSEUDO-TUBERCULOSIS IN MEN AND ANIMALS.

This was the subject of a communication by MM. Cornil and Toupet. The pseudo-tubercle may be anatomically undistinguishable from the true tubercle, and may contain giant cells, but it is free from the bacilli of Koch, and does not produce tuberculosis in animals.

M. Hurean, Villenenve, spoke of the

USE OF RAW MEAT,

but in condemnation of this kind of aliment.

M. Redard, of Paris, spoke of

SURGICAL INTERVENTION IN TUBERCULOUS OSTEO-ARTHRITIS OF THE TIBIO-TARSAL JOINTS AND OF THE FEET IN CHILDREN.

These can often be cured by free opening of the joints, followed by curretting or scraping, and cauterization with the thermo-cautery. The tuberculous foci must be carefully disinfected before and after the operation ; there must be thorough cauterization of all the tuberculous *foyers* and fistulæ, good drainage, prolonged antiseptic baths, and immobilization by plaster or silicate splints. The results of such operative surgical interference have been almost invariably good.

The third day was largely taken up by a discussion of the question of

THE HUMAN RACES, THE ANIMAL SPECIES, AND ORGANIC ENVIRONMENTS, CONSIDERED FROM THE POINT OF VIEW OF THEIR APTITUDE FOR TUBERCULOSIS.

The subjects of

HEREDITY OF TUBERCULOSIS IN ANIMALS

and of

TUBERCULOUS CIRRHOSIS

were taken up in their order.

At the evening session there was an interesting discussion on the third question :

THE WAYS OF INTRODUCTION AND PROPAGATION OF THE TUBERCULOUS VIRUS IN THE ECONOMY ; PROPHYLACTIC MEASURES

and we regret that our space will not permit of its reproduction here

NEW BOOKS AND PAMPHLETS.

ATLAS OF VENEREAL AND SKIN DISEASES: Comprising Original Contributions and Selections from the Works of Dr. M. Kaposi of Vienna; Dr. J. Hutchinson, of London; Dr. I. Neumann, of Vienna; Drs. A. Fournier and A. Hardy; and Drs. Ricord, Cullerrier, Besiner and Vidal, of Paris; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York, and others. Edited by Prince A. Morrow, A.M., M.D., Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology, in the University of the City of New York; Surgeon to Charity Hospital, etc. New York. William Wood & Company, 1888.

Our readers will doubtless recall a diversion made some months ago in the course of a review of Dr. Shoemaker's book on skin diseases, touching the question of when we could reasonably look for a new book to be brought out and how the particular field of skin diseases seemed to have been tilled until it was no longer productive, or in the simple phrase of the farmer, overworked. This was, it will be remembered, especially noted of *text-books* on skin diseases. But there is another part of this field which was in a most admirable state for cultivation. No better evidence of this fact could be adduced than the fact that practically instantaneously, three distinct publishers undertook the publication of an atlas of skin diseases, each one on his mettle to put before the medical public a work worthy of its financial support, and commanding at sight its confidence. It is not our purpose to put in parallel columns the superiority or inferiority of one of these over the other, but to give a clear candid statement of what we conceive to be the merits and demerits of the one now before us, and perhaps later, to do the same for each of the others.

It may not be amiss right here, to advert to the need a practitioner has for some good atlas on skin diseases. When we reflect on the comparatively small number of graduates and practitioners who ever have the opportunity of seeing anything more in skin diseases than the eruptive fevers with an occasional case of psoriasis or eczema, or of syphilis than an uncertain chancroid or a still more uncertain chancre, it is no wonder that we urge upon this class especially, the necessity for such an addition to his medical library. It would be as great folly for such a man to hope to be able to make an accurate diagnosis of a skin lesion without a good plate to guide him, as to expect him to do a Chopart's or a Larrey's operation without having fixed in his mind, by the aid of a diagram, the lines of incision. Not only so, but granting that in his life's practice he gets but a single rare case, it will be no little satisfaction to diagnose that correctly; and over and above everything else, it is a factor in his medical education and knowledge that can no more easily be disregarded than his anatomical plates.

But, to return to the case before us. It is proposed to publish in fifteen imperial folio parts, containing seventy-five chromo-lithographic plates, a complete atlas of venereal and skin diseases. The chief claims made by the publishers are based on the character of the work and its completeness. In giving plates of the eruptive fevers, they claim to make an advance on any other similar work. Its special effort is made to make the therapeutical part of the text worthy of the confidence of the profession and abreast of the latest advances in this line. They say that "in writing the text, the essential facts relating to symptoms, diagnosis and treatment, have been kept prominently in view." The venereal section is made up of seven fasciculi and thirty-five plates; the series of eight fasciculi and forty plates.

We do not, in an atlas, expect any especial attention to be given to the text: indeed, if a clear statement of what each plate proposes to present, is given, we might well content ourselves to refer to text-books for the clinical history, etc., of the disease. In this respect, however, we have been most agreeably disappointed in the present work. While there is no effort on the part of Dr. Morrow to give an elaborate and exhaustive treatise, he has certainly succeeded wonderfully in giving a succinct and clear statement of the best view on the topics discussed. Fasciculus I, which begins the venereal series is concerned entirely with chancroid and its complications. The text opens with a delightful *resumé* of the doctrines of Unity and Duality as applied to chancre and chancroid. The whole discussion of chancre is particularly satisfactory, and it is a pity that more people do not know that " the only sure means of prevention is the avoidance of exposure to the source of contagion." Now as to the plates, we must first acknowledge the impossibility of representing in a picture all of the physical characteristics of chancroids, but we are free to confess that from an artistic standpoint—and this is true of all the plates in the series—the work is beautiful, perhaps a little too highly colored, and from a clinical standpoint, except in cases we shall note later, an excellent representation. The point might be raised as an objection to the whole series that there are not enough original plates. But we are inclined to think that it is more sensible to follow what is acknowledged to be fine work of others, than to offer in its stead the representation of inferior cases in an author's personal experience. How many practioners own, or ever will own, the plates of Kaposi, of Neumann, and other foreign authors of note? And we are, therefore, inclined to accept as sound sense the determination on the part of the publishers and editor, to " enlist the co-operation, in the making of this atlas, of the leading dermatologists and syphilographers of the world." Fasciculus II, gives chancroids or chancres in various situations and Kaposi and Hutchinson are the sources of the illustrations. The text concerns itself with an outline of the course of syphilis, followed by the general characteristics, nature of the syphilitic virus, sources of the virus, modes of infection, the chancre and its varieties and complications. There is, perhaps, nothing more difficult to represent to the eye than the differences between chancre and chancroid; nor is this remarkable when we reflect that some of the best authorities admit that with the combination of sight and touch, and deliberate, careful reflection, the diagnosis can often not be positively made until the appearance or non-appearance of the "secondary" symptoms; so we are not much surprised to have to credit a moderate degree of success to these plates. In proportion to the ease with which either lesion if typical is diagnosed, in the same proportion we find some of the representations of typical lesions satisfactory.

Fasciculus III begins with the differential diagnosis of chancre and chancroid and then takes up the syphilides. The first plate represents an indurated chancre of the female nipple with an accompanying erythematous syphilide; and a chancre of the first phalanx of the forefinger. Neither chancre is particularly good, though the erythematous syphilide accompanying the first is quite as good if not a better representation than any given later of the same lesion. Again Kaposi is the source of the illustrations. The most successful plate in this set is probably that of the papulo-pustular syphilide.

We will in our next issue consider the remaining fasciculi of the venereal part of the atlas and the only number of skin diseases that has been published.

THE RELIEF OF TYMPANITES BY PUNCTURE OF THE ABDOMEN. By John W. Ogle, M.A., M.D., Oson., F.R.S., Consulting Physician to St. George's Hospital, etc., London. J. & A. Churchill, 11 New Burlington Street. 1888.

On the title page we find a somewhat different—or at least a more nearly accurate statement of the purport of the book, viz.: "On the relief of *excessive and dangerous* tympanites by puncture of the abdomen, a memoir," etc. The first of the book has already appeared in print in the form of a communication to the *Lancet* in July, 1887. We now have additions to the original "communication," and the whole put in an agreeable book form. We have read the memoir with no little degree of interest, and if we may be allowed to give our general impression before we consider its contents seriatim, we must say that we are disappointed—not in the general style, and certainly not in the number and extent of the quotations from others, but in the small amount of tangible matter the author sees fit to give on his own authority. After some introductory remarks the literature of the subject is taken up and disposed of admirably. It shows a remarkable amount of investigation and research. "The records of observers, ancient and modern," "Recent systematic works and text-books," and the "Results of personal experience kindly contributed by contemporaries," are an abundant guarantee of the amount of trouble taken and effort expended to give a complete statement of opinions on the subject. Then come more "Illustrations from the Pathology of some of the lower animals," followed by the author's own opinions. The author becomes quite sophomorical in his "concluding observations." "Consideration of the references given," he says, "will show that the weight of evidence, the preponderance of testimony, is in favor of, and warrants, this operative measure. They will be enough to demonstrate emphatically, and make obvious to those who have hesitation or fears as to the wisdom of the procedure, that the operation is not, as some with whom I have conferred upon the matter would fain think, one to be regarded as 'an example of magnificent indiscretion,' a wanton and necessarily dangerous, and therefore culpable, act—a species, in fact, of professional assassination; but that it is incontestably, when resorted to with circumspection and deliberation, a legitimate procedure, attended by most benign results, one that may be undertaken *tuto, celeriter, et jucunde;* at any rate, that it has strong evidence in its favor as a *dernier ressort.* Their unprejudiced consideration will justify the conclusion, that there are many cases in which even the pitiless and inexhorable torments of death can be forthwith averted by the operation in question and sablewinged 'Thanatos,' with inverted torch, be made to give place to his brother 'Somnus' with his poppies, medical aid stepping in, as at once *vitæ artifex, mortis frigator.*" This is rather flowery for a calm, scientific discussion of an important theme. But the chief fault we have to find—to which we have already alluded—is that the author does not indicate clearly when the operation is to be undertaken. What we would insist on is that it is not a *dernier ressort,* but a perfectly legitimate procedure when there is any necessity for its performance and where internal remedies and topical applications are unsatisfactory.

There is no doubt that in the matter of printing and accurate proof-reading our English cousins have reached a wonderful degree of art, and in this direction the present book is no exception. Doubtless American physicians would read and buy more English books if they only had the chance to know something of them.

THE MODERN TREATMENT OF DISEASES OF THE LIVER.—By Dujardin Beaumetz. Translated from the fifth French edition by E. P. Hurd, M.D. Newburyport, Mass., 1888. Geo. S. Davis, Detroit, Mich.

This is the second number of the Leisure Library series for 1888. Dujardin Beaumetz is always instructive, original and interesting, but in the present series of lectures he has surpassed himself. The perfect familiarity he displays when writing of a subject is entertaining; but it sometimes prevents him from giving as much detail as is necessary for the general reader. The present brochure is remarkably clever, but after reading every line of it we feel like exclaiming, Why did you not write more? Chapter I, "The Liver from a Therapeutic Standpoint," is brimful of information and yet one can but regret that the author did not give us more. Chapter II, "Cholagogues" does not, in point of interest, materially differ from Chapter I; Chapters III and IV, on "Lithiasis and Jaundice" come nearer satisfying our thirst and yet there is much more that the author could have said in his inimitably lucid way; and the three remaining chapters, on Engorgements, Inflammations and Hydated Cysts have as there chief fault the rapidity with which each subject is disposed of. It is a pity when a man can write so well and such a store of information at his disposal that he gives it out with such a sparing hand. Really, then the chief and indeed almost the only unfavorable criticism—if such it be—is that there is not enough of it.

As a translation it is beautiful and elegant and reflects great credit on Dr. Hurd. From a typographical standpoint, it is better than any number of the series that we have seen.

ANTIPYRINE. By Benjamin Marshall, M.D., San Francisco, Cal.

THE ISCHIATIC CRUTCH. By A. B. Judson, M.D., New York.

CONSERVATISM IN GYNÆCOLOGY. By A. Reeves Jackson, A.M. M.D.,

TREATMENT OF PENETRATING GUNSHOT WOUNDS OF THE CRANIUM. By Joseph D. Bryant, M.D.

ON EXERCISE FOR PREVENTION AND CURE OF DEFORMITIES. By A. H. P. Leuf, M.D., Philadelphia.

STRICTURE OF THE URETHRA; URETHROTOMY UNDER COCAINE ANÆSTHESIA. By Henry J. Reynolds, M.D.

A NEW METHOD IN THE TREATMENT OF THE VEGETABLE PARASITIC DISEASES OF THE SKIN. By Henry J. Reynolds, M.D.

THE ORTHOPEDIC TREATMENT OF PARALYSIS OF THE ANTERIOR MUSCLES OF THE THIGH. By A. B. Judson, M.D., New York.

PHARMACY AND THERAPEUTICS.

MERCURIC CHANGED TO MERCUROUS CHLORIDE.—Dr. Samuel Kennedy communicates to the *Pharmaceutic Record* the results of his experiments with bichloride of mercury in solution.

He found by repeated testing that compound syrup of sarsaparilla reduces mercuric to mercurous chloride. If a little common salt is added to the solution, the buff-colored precipitate of calomel does not take place for at least two or three weeks. He advises to add to prescriptions, in which corrosive sublimate enters as an ingredient, an amount of common salt equal to the weight of the corrosive sublimate.

SACCHARINE CONSIDERED AS AN ANTISEPTIC OF THE DIGESTIVE PASSAGES.—According to Constantine Paul,* saccharine is an excellent antiseptic for the digestive passages, not being toxic, and having an agreeable odor and savor.

* Acad. de Med., July 10, 1888.

In doses which do not exceed three or four grains it causes no disturbance of nutrition; urea, phosphoric acid, the urinary salts, still continue normal in quantity. In Dr. Paul's experience with saccharine diabetes, it has seldom troubled the digestion, and he has seen patients who have taken it for more than five months without any evil results whatever. In other cases, however, it has seemed to arrest the digestive fermentations, causing pain in the stomach, diarrhœa etc.

Dr. Paul insists especially on the antiseptic properties of saccharine. One part to two hundred prevents the ammoniacal fermentation of urine, and arrests the development of the *bacterium termo;* 1-500 that of *staphylococcus pyogenes;* 1-300 perceptibly antagonizes the growth of the streptococcus of puerperal fever.

Saccharine is, therefore, an excellent dentifrice or antiseptic of the mouth. A six per cent alkaline solution is prepared: of this a teaspoonful is put in half a teacupful of water, which may be aromatized. You thus have an admirable antiseptic mouth-wash. A solution of this kind would be useful for washing out the stomach in putrid dyspepsia and gastriectasis, or as a vesical injection in cystitis with ammoniacal urine.

According to a Paris letter in the *Therapeutic Gazette*, the use of saccharine has been prohibited in all substances intended for food, both in England and in France. It has been, so far, chiefly employed for adulterating purposes, champagne wines of German make, syrups, chocolates, etc., having been seized in which sugar was partly replaced by glucose seasoned with the new sweetening principle. The authorities have wisely decided that while saccharine may be very good for diabetics, or as an antiseptic medicament, its use in common articles of food is a rank adulteration that should not be tolerated. Its place is on the pharmacist's shelf, to be prescribed by the physician, and not on the breakfast-table.

PARALDEHYDE, as a therapeutic agent, was first brought to the notice of the profession in 1883, chemical composition $C^6 H^{12} O^3$. It has an ethereal taste and odor, in its pure state, (or diluted with water), it is pungent, disagreeable to the taste, irritating to the pharynx, offensive to the stomach and altogether repugnant to the majority of patients. As an elixir it is not specially unpleasant and from its effects, is a solace to the patient.

Excellent elixirs of paraldehyde are made by the local druggists of this city, representing in strength 10 per cent. and 25 per cent., the former contains 45 minims of pure paraldehyde to the ounce of elixir, or about 5½ minims to the drachm; the latter 2 drachms of pure paraldehyde to the ounce, or 15 minims to the drachm, giving very convenient preparations for administering in definite quantity. When given, diluted with water, the elixir is palatable, non-irritating to the pharynx and stomach and is not followed by any of the disagreeable effects of other anodynes and hypnotics.

Above all, it is a safe remedy—no danger of active or passive congestion of the brain, liver, kidneys or lungs, no risk of sudden or premature death from heart paralysis. In the writer's personal experience, elixir of paraldehyde is a heart tonic, diuretic, anti-constipative, non-irritant, without nausea, acts promptly and positively in a few minutes, produces a quiet, calm, natural-like sleep—no disturbed dreams, incubus, phantoms, hallucinations, or depressions. The greatest pleasure is to awake in the morning—not feeling that any medicine had been taken to produce sleep—with a clear head, a relish for a good breakfast and a stomach ready for vigorous digestion,

Elixir paraldehyde is not alone a pure and simple hypnotic, applicable only to the cerebral excitement of the insane and mild cases of restlessness from trivial causes. The remedy has a wide range of usefulness in its application to the relief of valetudinarians, that cannot perhaps be claimed for any other medicine at present known to the vocabulary of our materia medica, the relief being obtained without unpleasant or detrimental sequels.—DR. A. B. COOK, in *Progress*, Louisville, Ky.

CHOLERA INFANTUM.—Dr. Depre, in the *Rev. de Therap.*, states that he gives oxide of zinc, fifty-three grains; tincture of rhatany, twenty drops; simple syrup, seven and a half drams. Dose: A teaspoonful every half hour, until vomiting and diarrhœa are relieved.

WHOOPING-COUGH.—Dr. W. O'N. Mendenhall in the *Med. Register.*—He said that, when called in any stage of the disease, I begin the treatment by cleansing the stomach and establishing a healthy action of the liver and kidneys, after which I prescribe the following:

℞.

Carbolic acid, - - - - - -	flm v.
Pure glycerine, - - - - -	℥j—M.

SIG.—Teaspoonful every three or four hours for a child ten years old.

This in every instance, except one, has been very satisfactory. Lest the simplicity of this treatment cause physicians to mark it as worthless, let me instance one family. I was called into a family of four children, two of which had returned from a visit the evening before, having pertussis with the characteristic cough well-developed. I at once put the four under treatment, and after three or four days the cough became so mitigated as to cause no anxiety and but little inconvenience, and in two or three weeks it ceased entirely, while the two unaffected children, having been under the same treatment, showed no signs of the disease, all having remained in the same family and slept in the same room. To me this treatment is largely empirical, and must remain so until some man can give us a rational pathology.

DIPHTHERIA, *Antiseptic Treatment of the Throat.—Med. Record.*—1. M. Gaucher's method is to rub the affected surface with a cotton-covered probe soaked in an alcoholic solution of camphor and carbolic acid. This is done twice daily. In the intervals the parts are washed with a one per cent. solution of carbolic acid.

2. The method of Bouffé is to give one teaspoonful, every two hours, of the following:

℞.

Lemon juice,		300.0 grammes.
Sodæ sulphat.,		
Sodæ chlorid,	āā	5.0 "
Ferri saccharat,		3.0 "
Sodæ phenat,		m xxv.
Mel.,		3.0 grammes.

M. The same solution is used as a gargle.

3. The treatment suggested by Osicki is to paint the parts with the following:

℞.

Tinct. rhatan.	10.0 grammes.
Tinct. benzoin,	5.0 "
Tinct. aloes,	3.0 "

M. After each application the following powder is insufflated:

℞.

Sulphur. precip.,		
Pota. chlorat.,	āā	5.0 grammes.
Tannin,		1.5 "

M.

4. The so-called combined antiseptic treatment consists of painting the parts four times daily with an alcoholic solution of corrosive sublimate, 1 to 1,000. In the intervals the parts are irrigated with a one per cent. solution of boric acid. Internally there is given every hour a teaspoonful of the potion of Letzovich. The formula for this is:

℞.

Sodæ benzoat,	5 to 15 grammes.
Aquæ q. s.	

To this add:

℞.

Aquæ menth. pip.,	50.0 grammes.
Syr. aurant. cort.,	10.0 "

M. With the above is given plenty of alcohol internally. (We prescribe the "plenty of alcohol" and believe it is *the* remedy for diphtheria.—ED.)—*Archives Gynæcology, Obstetrics and Pædiatics.*

THE name of the *Canada Medical and Surgical Journal* has been changed to the *Montreal Medical Journal.* This excellent journal has been enlarged and improved, and is cordially recommended to our readers.

VOMITING OF PREGNANCY.—ED. in the *Northwestern Lancet*, says that in the vomiting of early pregnancy, lying with the shoulders low and the hips elevated will give quick relief. A linen compress saturated with French brandy, strapped tightly over the gastric region with adhesive plaster, acts mechanically in holding the muscles quiet, and will sometimes do wonders in these cases.

DR. E. MILLER REID has recently been elected to the Chair of Physiology and Hygiene in the Baltimore University School of Medicine.

MISCELLANEOUS.

REPORT ON DISEASES OF CHILDREN.—Dr. J. A. Larrabee, of Louisville, in this report on the progress in pediatrics before the meeting of the Kentucky State Medical Society, at Crab Orchard Springs, gave some excellent points worth remembering. He discussed the frequency and fatality of the nursing bottle and quoted the exclamation of Sully on returning to Rome and seeing his mother and nurse at the gate ready to embrace him. Rushing to his nurse he said: "She who nurses is greater than she who bears." Artificial foods are presented in such numbers, and the bottle is so frequently seen that its use must be very common. While we all agree that the maternal breast is the proper food for a child yet artificial feeding can be carried on so as to do very well. The mother and nurse know too well that the nursing bottle is a very good stopper, and hence the child has this crammed into his mouth whenever it is desirable to stop crying, either the result of hunger or of pain. The gastralgia of nursing infants may be made to disappear by diminishing the frequency of nursing. In cows' milk, caesine is the great obstacle. He recommended the addition of barley water in equal parts with the milk and the addition of a little salt. Salt is an essential of life, and it is very necessary. He used to think that teething had much to do with the summer diarrhœa of infants, but is now of a different opinion. He discussed the sterilization of milk and exhibited a machine for accomplishing the same. The practitioner of pediatrics must keep continually in mind the causes of summer complaint, high temperature, over-feeding, and micro-organisms. Bowel complaints, known as summer complaint, are more liable to attack children during the second summer, but not on account of teething. It is due to the introduction of germs to which the child is more subject than when nursing. The great idea in treatment is antiseptics internally the best of which is naphthaline. All artificially fed babies should have their food sterilized. Opiates and astringents he considers of doubtful value. Should an infant be seized with cholera infantum the doctor should be the first person consulted and not the druggist. Many cases come to the doctor in a moribund condition after having taken a turn at goods in the druggist's shop. The druggist, it seems, is the only person of sufficient acumen to prescribe without seeing the child.

PILULÆ ANTIPYRETICÆ.

Each pill contains:

Powd. Opium,	gr. ¼
Powd. Digitalis,	gr. ss.
Quinine Sulphate,	gr. ij.

Dose: One pill every six hours.

—NIEMEYER.

THE EFFICACY OF LARGE DOSES OF ARSENIC IN CHOREA.—The curative property of arsenic in certain forms of chorea is well attested by numerous unimpeachable observations. It is equally certain, however, that arsenic does not always cure. Dr. James Sawyer, in an article published in the *Birmingham Medical Review*, maintains that when arsenic fails to manifest its ordinary therapeutic efficacy, it is because the drug is not administered in the right way. Properly exhibited, he regards its action as little less than specific. According to him, in order to get the best effects of arsenic in chorea, the remedy must be employed in large and increasing doses. The medicine may be safely "pushed" until irritative vomiting is excited. As with other drugs, some manifestation of physiological action coincides with the direct therapeutic effect of the remedy. It may be remarked in this connection, however, that irritative vomiting belongs rather to the pathological than the physiological effects of arsenic, a fact which Dr. Sawyer's enthusiasm for this remedy may have caused him to overlook.

The author describes a typical illustrative case as follows: "A little girl, ten years old, weakly and neurotic, has subacute, general chorea. I give her five minims of Fowler's solution of arsenious acid in an ounce of water thrice daily. In three days the dose is increased to ten minims; in three days more to fifteen; in three days more to twenty; and so on, until she is taking thirty-five minims of the solution, or a little more than a fourth of a grain of arsenious acid, thrice daily. From the commencement of the treatment the choreic movements gradually subside in severity, in frequency and in extent of distribution, and when the large dose of more than half a drachm of Fowler's solution is attained the movements entirely cease, and a little vomiting and stomach-ache warns us that we have reached the earlier physiological manifestation of our remedy. We then withdraw the drug altogether for two days. Afterward, for a few days, we give a reduced dose, ten or fifteen minims of the solution; then the remedy is finally discontinued. The child remains well. After a fortnight's further observation she is dismissed from our care, cured."

Perhaps the author claims too much for his favorite remedy.

But it may be well, in suitable cases, where moderate doses of arsenic have failed, to test the therapeutic efficacy of the drug in the larger doses employed by Sawyer.—*Medical Record*, April 14, 1888.

THE BREEDING OF PAUPERS AND CRIMINALS.—At the recent Prison Congress, Mr. C. H. Reeve, of Plymouth, Ind., read a suggestive paper on "Dependent Children," which went deeper than the very obvious question of their support and rearing. In regard to the existing conditions, he said that the origin of a majority of the most undesirable of these children exists in an erroneous and perverted view, by both State and Church, of what constitutes a true marriage, producing a vicious civil and canonical legislation that encourages and sanctions their production, thereby constantly widening the planes of pauperism and crime.

"The mass of dependent children is largely made up of foundlings, illegitimates, children abandoned by worthless parents, orphans of the very poor, with a few better born who become waifs from various causes. In the cases of nearly all of them except the last there is more or less mental deficiency, or deformity in the brain substance, or the conformation or arrangement of brain ganglia.

"Statute law makes marriage a civil contract—a matter of dollars and cents. No matter who comes for a marriage permit—the strong or the weak-minded, the sound and healthy, or the deformed and constitutionally diseased, the millionaire or the hereditary pauper, the moral and orderly or the vicious and confirmed criminal, the progenitor or statesmen or of idiots, the sane, or the hereditary insane if favored with a lucid interval, the temperate or besotted—all are given a permit alike. The revenue is collected, the ceremony authorized, the record made, and this civil contract is fully completed by sanction of law! If a man wants to run a locomotive engine, or practice medicine (elsewhere than in the United States) or plead in the courts, or stand in the sacred desk and talk theology, or teach a school, or run a pilot boat, or even to secure a petty clerkship under Government, he must submit to a rigid examination as to his fitness for the position and its duties, and be able to pass one. Before one comes forward to get a permit to enter into a contract that places him under obligations and demands of him duties that are the most important, the most responsible, the most sacred that can be assumed anywhere between the cradle and the grave, that vitally affect the bodies social and politic as well as corporal now existing and hereafter to exist, directly and indirectly, not a word is said. All are licensed."

Not very long ago the public were admonished by a Consul of the United States that a lawful marriage in the United States was not necessarily binding in France as between a Frenchman and an American. It seemed shocking, but looking at our marriage system as here presented, there is certainly much to be said for the French views of the subject.

Mr. Reeve does not consider the Church blameless in the matter. "It regards marriage as a holy, sacramental covenant. By permission of law its ministers ceremonially aid the parties in making this holy covenant, which, at the same time involves the statutory civil contract. It makes little or no inquiry as to the candidates. (One organization may as to belief in a creed). It looks only for a license and the fee in prospect. Even in the shadow of the prison wall and of the gallows its ministers, in sacredotal robes, have united criminals. Thus is it *sanctioned by the Church!* What a shocking view is before and around us when we see the public opinion, both legal and social, upholding these conditions! Government maintains a bureau and employs scientific experts, regardless of expense, to hunt out and kill diseased horses and cattle; invades anybody's premises for the purpose, and makes it a crime for the owner to resist. But when a viciously diseased man or woman applies for a legal permission to taint whole generations, it asks no questions, extends no protection for individuals or the public, but grants the permit.

"What must follow and does follow this universal misuse and abuse of knowledge and liberty? Plainly, the constant and rapid peopling of the planes of pauperism, idiocy and crime, and the steady widening of those planes; physical and mental disease and deformity; the evolution of new forces that prevent the correct views of a true humanity, and tend to destroy moral perception."

Mr. Reeve made certain suggestions concerning the care of these little unfortunates, and then went on to say that "with the statutes providing for homes and training schools, there should be others looking to the prevention of pauperism and crime by preventing the production of paupers and criminals, and especially their production under the permission and sanction of the State laws and social usages.

"It is a greater evil to bring into life a child on the plane of hereditary pauperism, or in the line of successive criminals, than it would be to adopt the theory of Malthus, confining it to those planes. There is as much wrong in bringing into life a child with insane parentage as there would be in driving a sane child insane by cruel and brutal usage. There is more wrong in bringing into life a child without legitimate parentage than there is in child-stealing for the purpose of professional beggary.

"Let us hope that, slowly, but surely, the knowledge will obtain that marriage is not romance, but the very highest order of business, requiring more deliberation, more care and forethought, and entailing more responsibility than any other act known to humanity. That Government will recognize that it has no greater obligation resting upon it than to see that none have its license to enter into a contract of marriage who are unfit for its relations and duties, as far as human foresight and legal provisions can prevent, and proper inquiry can prevent in most cases, if it be aided by sufficient penalties."

It is a hopeful view of the power of law to suppose it can so regulate the marriage relation as to put an end to the breeding of criminals, paupers, and insane. Careful regulation of marriage has not been so successful in countries where the regulations are most strict as to warrant any very great reliance on it; and surely it would be a curious condition of affairs to forbid the rearing of criminals at home while we import them so freely from the old world, but the condition described in the article we have so freely quoted is one that deserves recognition, and if laws can but imperfectly control the matter, such statements will certainly help to awaken public knowledge upon the subject. Newspaper reports tend to show that Dr. Richardson's chapter on the "Intermarriage of Disease" has brought him a considerable amount of correspondence from those who desire to apply to their own cases what he has to say on the subject.

STRANGULATED HERNIA (W. C. Webb, M.D., Bryantsville, Ky.)—Since this disease is so frequently met with and also demands such prompt treatment it behooves us to have clear and distinct ideas of a proper plan of procedure, I am fully cognizant of the fact that every case is a law unto itself.

While I have nothing new to add, but to recount the struggles of physicians in this field, yet my experience in this direction has taught me some useful but sad lessons. When strangulated hernia of any form presents itself, there is but one plain path to follow, which, proving to be a failure, then your subsequent plan of treatment is self-evident. While having carried out the first, if needs be, will be of marked assistance to you in the latter, place your patient comfortably in bed, then give hypodermically morphia and atropine until you produce pretty deep narcosis, when you will find the tumor to be softening, the spasm relaxing, and gradually gliding back into the abdominal cavity without a touch even being made in the direction of taxis. I wish to lay marked stress upon the latter. While heretofore I have had no little vanity, much eclat even from the bystanders in my supposed dexterity of manipulations, my experience has truly taught me that it was not my dexterity but the relaxing influence of the narcotic. But behind this there is a sadder lesson still. Had not taxis been resorted to, those irreparable lesions would not have been done to the almost gangrenous intestines, otherwise the vital force would have been entirely adequate to the test of restoring the almost incarcerated intestine, in virtue of which, keep your fingers absolutely from the tumor in way of taxis; in the meanwhile you might use a large enema of flaxseed water to wash out the lower bowel. After having waited a sufficient length of time and no perceptible change is found to be taking place in the tumor, your procedure will then be of a two-fold nature—to relieve the strangulation, and ultimately to produce a radical cure. Keep ever before you the fact that every case is a law unto itself; and further, in every step let sound judgment and discretion mark your course. The clinical requirements in these operations are: A safe and satisfactory disposal of the protruding intestine and sac; and second, a total obliteration of the hernial rings and an accurate co-aptation of the sides of the canal. If there is irreparable damage done to the intestines, you will either make an exsection or an artificial anus; otherwise, in cases of deep congestion, a serious perplexity often arises as to how far the vitality of the intestine is consistent with change of color, drying of the secretions, emphysematous crackling and fæcal odor. I have seen some intestines apparently hopeless, returned to the abdomen with the desired results. I don't know that we are justified in returning strangulated intestine until it gives some evidence of returning vitality. It is perfectly feasible to keep it enveloped in moist cloths and rubber tissue for several hours which will materially aid you in coming to a decision. We may resort to one of several procedures in dealing with the sac. If the hernia is recent, about the best plan is to reduce the sac to the abdominal cavity. If the adhesions are so great as to prevent its safe return, leave the sac in the canal, and firmly approximate the superficial tissues and skin over it. The sac may be ligatured, the hernial investment cut off, and the stump either returned or invaginated in the canal, or the sac may be puckered up by running a ligature through it longitudinally, and fixed as a bulwark against the internal ring. Most every surgeon will make one of the above procedures more or less modified to suit his individual taste; likewise, in the obliteration of the canal, a variety of procedures have each had their enthusiastic advocates. To insure absolute co-aptation the needles must be pushed deeply, and firm pressure is often required. After the canal has been satisfactorily closed an independent set of sutures should be passed through the integument.

What kind of a truss, or should any be worn after an operation? I should think that the best appliance was not one which made pressure direct over the ring, but one which corrected this abdominal outline and changes the direction of the thrust of the intestines from one at right angles to the plane of the hernial opening to one parallel to its plane. Some such abdominal supporter as women wear would answer the purpose; and, further, it would materially add to the chances of the permanent success, after such operations for the cure of hernia.—*Prcgress.*

TREATMENT OF YELLOW FEVER.—In the *New Orleans Medical and Surgical Journal*, Dr. R. H. Day contributes a paper upon yellow fever, from which the following abstract is taken:

First in importance he places the duty of reassuring the patient and increasing his will-power. "Yes, you can recover if you will be a man and dismiss these hurtful and foolish fears." If the skin be hot or dry, he recommends a hot mustard foot-bath, with warm drinks; care being taken not to push the sweating too far.

If the stomach be full, an emetic of warm water is given. After the operation of this, mustard is applied over the stomach, and small doses of mint, or of morphine with soda given, while the face is frequently sponged with spirituous lotions. If a cathartic be needed, he objects strongly to castor oil, preferring enemata of senna and magnesia.

When the attack is ushered in by violent cerebral symptoms, he bleeds freely until the brain is relieved. "To trust to revulsives and sedatives in such extreme cases were certain death."

For the septic condition of the system he prescribes a scruple of calomel and thirty to forty grains of quinine, divided into four parts; one to be taken every four hours. This is given in the hot stage, as early as possible, unless cerebral complications oppose the use of quinine.

Nausea calls for a blister to the epigastrium, with ice or cold water moderately; sometimes a little creosote with morphine, soda, and mint water.

Morphine or Dover's powder may be needed for insomnia.

Cerebral hyperæmia occurring later, calls for the bromides, with cold to the head. In one case the patient was saved by opening the temporal artery.

For black vomit or hæmorrhages he uses the tincture of iron in teaspoonful doses, perhaps with ice and champagne or cognac.

Suppression of urine he treats by cupping over the kidneys, and stimulating liniments with digitalis.

The mortality under this treatment was from 3 to 3½ per cent.

He values the curative powers of quinine highly in non-malarial fevers, basing his opinion on an experience of over fifty-six years of active practice.—*Phil. Med. Times.*

CHLOROFORM AS AN ANÆSTHETIC.—Dr. Chisholm's recent paper, "A Very Valuable Lesson for those Who Use Anæsthetics," brings up not only the question of the proper treatment of suspended animation from anæsthetics, but also that of the choice of an anæsthetic agent. Dr. Chisholm estimates that chloroform has been administered under his charge at least ten thousand times, without a death. Four cases of suspended animation have occurred in this series, which were successfully treated by the method of Nélaton—suspension of the patient by the heels. The detailed account of these four cases adds convincing testimony to the value of this plan of treatment. Dr. Marion Sims, in "The Story of My Life," gives a graphic account of a similar successful case in which the treatment was supervised by Nélaton himself; three times were the functions of the heart and lungs restored by suspension, and as often they failed when the supine position was resumed. "It is the horizontal position which is fatal in chloroform poisoning," Dr. Chisholm says, and adds: "I feel convinced, from my own experience with this invaluable method, that many of the dead from chloroform might have been resuscitated had the surgeon hung up immediately by the feet the inanimate body instead of wasting time in applying hypodermic injections, cold water splashing, spanking, fanning, electricity, or even attempts at artificial respiration.

Do any or all of these things if you will, but hang up the patient first, and that instantly, as soon as the heart and lungs fail." The method is equally applicable to the lesser grades of heart failure, and to the same conditions when brought about by ether.

The method of treating obstructed phayngeal breathing employed by the author, is deserving of especial emphasis because of its practical importance. "Should snoring occur," he says, "indicating some difficulty in pharyngeal breathing, the chin is drawn forcibly upward. This elevation pulls the anterior wall of the pharynx, with the hyoid bone and root of the tongue forward, making for the air a clear and straight passage from the nose into the lungs. By this movement of the chin, respiration becomes immediately quiet and easy. The pulling up of the chin is a much more efficient means of pulling the root of the tongue forward, than by pulling out the tongue with the forceps, as is recommended by some surgeons. It is not always easy at this stage of anæsthesia to get into the mouth, as the lower-jaw muscles may not be relaxed. A proper tongue-forceps is not often at hand, and to tear the tongue substance with sharp-toothed and yet slipping instruments, with the soreness and swelling which subsequently follow, is an abominable practice which should be abolished. The patient's chin and your own hands are always present, and it only needs knowledge of the method to apply it, and to secure prompt and speedy relief."

The belief has been growing stronger of late that ether is not so safe an anæsthetic as has been supposed. Emmet, about 1865, had a death from ether anæsthesia. The woman was suffering from cystitis and pyelo-nephritis. After this death, he established the rule in the Woman's Hospital that the urine of all patients should be examined prior to etherization. He states that he has had five other cases of fatal suppression of urine where this rule was neglected by his assistants. It is a clinical fact which has been long recognized that persons with certain diseases of the urinary organs do not stand operations well. Especially is this true of persons with surgical kidney. Thay die shortly after operation from anuria with uræmia. It has been supposed that death is due to shock from the operation; but it is now known that the principle cause is irritation of the kidneys with ether. Reports of serious illness and death from ether-uræmia have not been rare in the last few years. So real is this danger, that some of the most conservative surgeons in America have abandoned ether as an anæsthetic. There is unquestionably a strong reaction against the dictum that ether alone shall be used for the production of anæsthesia in surgical practice, and a desire that the relative indications for the use of chloroform be better defined. While professional opinion is not yet sufficiently crystallized for dogmatic assertion, yet it is quite well established that ether is badly borne at both extremes of life (since it is apt to set up a bronchitis, or to intensify one already present) and by chronic drunkards; and that it is very fatal in cases of fatty heart and of nephritis. Chloroform, on the other hand, is well borne by the young and the old, by pregnant and parturient women; and it is not known to have any irritating effect upon the kidneys. It is almost universally recommended in tracheotomy. Deaths from chloroform generally have been among adults. Deaths have occured during the administration of chloroform, where there was reason to believe that fear of the anæsthesia was the cause of the fatal result.

In the present state of our knowledge, the use of chloroform for the production of anæsthesia is justifiable during labor, in persons suffering from acute or chronic disease of the kidneys, in tracheotomy cases, and in the young and old, especially when they are suffering from bronchitis. Ether should not be given to persons suffering from diseased kidneys.—*Med. and Surg. Reporter*, July 21, 1888.

BENIGHTED ORIENT.—An article translated from a Medical Journal published in Egypt, "*Al Shifa*," and published in the *Albany Medical Annals*, shows why Arab-speaking nations are so deeply sunk in ignorance and how difficult it would be for them to become enlightened. In the course of some remarks upon the researches of a French physician, bearing upon the treatment of the hæmaturia caused by the *Bilharzia Hœmatobia*, the editor had taken occasion to contrast the enterprise and activity of this non-Arab speaking occidental with the supineness and apathy of his own people. His indignation is aroused in discussing the subject, and he says not the humble and ignorant alone are amenable to blame but princes also, and men of science. He confesses with shame that the dust of the tombs covers what little literature there is; that the book of knowledge is opened not, or if opened, not read, and if read, suggests no idea, elicits no observation, rouses no one. What increases still more his despair is that his countrymen are content to rest on the laurels of their ancestors while denying to foreigners any glory because of the obscurity of their ancestors. He declares that they do not understand the motive and value of utility, that they do not comprehend or recognize merit, that their actions are prompted too much by jealousy, hatred and revenge.

While a severe arraignment of his countrymen, his expressions are altogether general, they do not exceed the limits of propriety, but seem to us to be only the just indignation of a true patriot whose motive is an ardent love of country and profound aspirations for its betterment. Not so with the authorities. He receives promptly a sharp notice from the Minister of the Interior, telling him that he had criticised and attacked certain princes, and men of science which was no part of the duty of his journal. That he had interfered with administrative affairs and that a repetition of the transgression would bring upon him the penalty of the law. The brave editor replies that he cannot see in what respect he has exceeded the limits of his privileges and if he has offended, the tribunals are open for decision and Egypt is no longer a despotism; that the malady is desperate and can be met by no ordinary measures; that strong speech is necessary that one shall be heard; that to rectify a fault it must not be concealed but made the object of constant reflection and study; and that having these convictions nothing will deter him from acting fully in accordance with them, no matter what may happen. These are brave words —braver probably than they appear to us, who live in a free and enlightened country, swayed by the press. We wish the noble editor success in the conflict against wrong and oppression, into which, from a sense of duty, he has been drawn, but we fear public opinion is not sufficiently enlightened in the East to follow him up in the unequal contest.

THE BACILLUS LEPRÆ.—Dr. Beaven Rake, Superintendent of the Trinidad Leper Hospital, has just made a report to the Scientific Grants Committee of the British Medical Association of his "Cultivation Experiments with the Bacillus Lepræ," some of which extend over nearly four years. His conclusions are: 1. At a tropical temperature and on the ordinary nutrient media, he has failed to grow the bacillus lepræ. 2. In all animals yet examined he has failed to find any local growth or general dissemination of the bacillus after inoculation, whether beneath the skin, in the abdominal cavity, or in the anterior chamber. Feeding with leprous tissues has also given negative results. 3. He has found no growth of the bacillus lepræ when placed in putrid fluids or buried in the earth. Dr. Rake says, however, that an inquiry of this kind is practically endless, so varied are the conditions of temperature, time, nutrient media, living animal tissues or putrescent substance, and so many are the observations necessary to avoid or lessen the risk of errors of experiment.

INSTEAD of sponges, Billroth uses gauze prepared as follows: The absorbent gauze is cut into pieces eight inches square, and of these seven are folded and sewed at their edges. These are boiled twice in one day, one hour each time, in a sublimate solution of 110 degrees. They are then placed in jars and carefully covered. Gauze thus prepared is thoroughly antiseptic. Every attempt with such gauze to cultivate micro-organisms has failed.—*Bull. Med.*

SCHOOL OF HYGIENE AT ROME.—Sanitary science is beginning to be cultivated in earnest in Italy. A School of Hygiene has been established in connection with the Institute of Experimental Hygiene in Rome. Instruction in matters relating to public health and sanitary engineering will be given to medical men, engineers, veterinary surgeons, and pharmacists; and the technical researches on subjects relating to sanitation, offered by the Italian Board of Public Health, will be carried out. The course will include practical exercises in physical and microscopical investigation, and chemical analysis as applied to hygiene. A certificate will be given after due examination to those who have gone through the whole course. Dr. Pagliani, Ordinary Professor of Hygiene in the University of Turin, has been appointed Director of the School, in which he will also fill the Chair of Sanitary Engineering.

FETID SWEATING OF THE FEET.—The *Kriegs-Sanitas Ordnung* recommends a powder composed of three parts of salicylic acid, ten of starch, and eighty-seven of talc. Five grammes suffice for one application, but this remedy being not always convenient, the Prussian military laws prescribe a salicylic suet (salicylic acid, two parts; mutton suet, 100 parts.)—*Archives de Med. et de Pharm. Militaires.*

AN East Indian Morning draught called "tiger's milk" is not generally known. Add the beaten yolks of three eggs to two tablespoonfuls of powdered white sugar, three cloves, the rind of half a lemon and half a pint of Imperial Crown brandy. Pour over it a quart of new warm milk, stirring rapidly, and serve immediately. This is recommended for those who live in malarial districts and for delicate persons before breathing the crisp air of autumn or winter. A wineglassfull will be sufficient in this climate.

RESECTION OF THE PYLORUS.—At a recent meeting of the Imperial Royal Society of Physicians of Vienna, Dr. Salzer, Billroth's assistant, brought forward two remarkable cases of pyloric resection. The history of the first case was that the woman had complained since March of the current year of abdominal pain and repeated vomiting, as well as of a gradually growing tumor. The examination at Billroth's clinic showed the presence of a tumor, which had its point of departure in the symphysis and went as far as the pit of the stomach.

Billroth performed laparotomy, and met with extensive adhesions of the deep abdominal layers to the surface of the tumor, a fact which complicated the course of operation and rendered it specially difficult. On incision of the tumor, a brown-colored liquid discharged from it, and on a mere close examination, the swelling was found to adhere to the wall of the stomach. As the tumor could be extirpated only when a portion of the wall of the stomach was removed at the same time, Billroth had recourse to the resection of the pylorus, and the whole operation was attended with full success, as the woman completely recovered. The microscopical examination of the extirpated tumor showed it to be a sarcoma which had its origin in the muscular layer of the wall of the stomach. The inflammation which had been present around the tumor was probably due to the fact that the tumor stood in open communication with the stomach, and the contents of the latter thus produced irritation, which gave origin to an inflammatory process. In the second case, resection of the pylorus was performed owing to the presence of carcinoma; in this case the tumor showed extensive adhesions to the pancreas and the gastro-colic ligament, which had, for this reason, to be removed too. A sudden and profuse hæmorrhage supervened, which was stopped by sutures and the actual cautery. The operation departed from the usual course in that the pylorus was brought into connection with the large curvature of the stomach instead of being inserted into the small one, as is commonly done. This patient also made a speedy recovery.

TREATMENT OF SLEEPLESSNESS.—1. *Hot Bath*, taken just before settling quietly for the night, is most valuable in producing a dreamless sleep, though this does not usually last more than four hours, and is sometimes followed by a period of great wakefulness, relieved only by a short morning doze. Method of giving the bath most important. Bath room should be at temperature of 65°, and this to be raised during bath to 70° Patient to be at once stripped, and then the stooped head and face rapidly douched with water at 100° to dilate brain vessels; next whole body, except head and face, to be immersed in bath at 98°, and this temperature rapidly raised to 105°–110°. In about eight to fifteen minutes, when the at first accelerated pulse has fallen to a slow, full, steady and compressible beat, the patient must be slowly raised, closely wrapped in warm blankets (a loose pyjama suit is a good contrivance), and conducted to the bedroom without any haste and at as small personal effort as possible. On reaching the bedroom he will be dry. Let him then at once don his night-clothes and immediately lie down with the head well raised, a hot bottle to the feet, and the body well covered with bedclothes. The bath probably acts by reducing the supply of blood to the whole of the brain, thus decreasing the functional activity equally throughout, and so placing it in the most favorable condition for complete functional rest, to the exclusion of the partial activity of certain centres which would induce dreaming. It has proved most useful for the relief of disturbed sleep in persons who have either ceased to be influenced by ordinary hypnotics, or in whose cases their use is contra-indicated. The bath itself, however, is contra-indicated in extreme anæmia, emaciation, aortic valvular disease, and atheroma.

2. *Massage at bedtime.*—Valuable in organic cardiac mischief, and in the very large number of cases in which functional weakness of the heart and circulation generally is a feature of the nervous debilitated constitution. Two cases of aortic regurgitation mentioned, in which permanent benefit resulted, and one of aortic aneurism where the improvement was only temporary. On conclusion of the kneading the patient must at once compose himself to sleep. Its performance must be rapid, commencing with the abdomen and passing to the back, arms, and legs, with as little exposure of the parts to the outer air as possible, so that a layer of warm air may be maintained between the closely-covered limbs and the bed-clothes. The manipulations should be directed not so much to the evacuation of the lymphatic and venous vessels of the parts dealt with, as to the rapid and sufficient stimulation of the sensory nerves with the dilatation of the arteries over as large an area as possible. This kneading no doubt acts in the same way as tapping the abdominal parietes of a frog, which Goltz showed greatly dilated the abdominal vessels and distended them with blood, whilst it reduced the frequence of the pulse.

3. *Warm Abdominal Compress.*—Take two pieces of twilled calico, half a yard wide and four yards long; roll these up lightly and raise them to a great heat in a closed earthenware vessel in a hot oven. Im-

merse as much of one as is necessary to cover the abdomen in water, and apply closely to the abdomen, then rapidly and firmly roll the rest of the bandage round the abdomen and loins; take the other hot bandage out of the earthen vessel and wrap it firmly round the first. In this way heat and moisture are kept applied to the abdominal walls, keeping up the free circulation of blood and soothing the nervous system. Schüller put a warm compress on the belly of a rabbit, and having removed the cranial walls, he noticed that an immediate and long-continued contraction of the meningeal vessels, with slowing of the cerebral movements resulted.

4. *The Wet Pack.*—This is most useful in those cases of erethetic neurasthenia resulting from prolonged overwork, mental distress, morphine habit, chloral drinking, and chronic bhang poisoning. Any immediate beneficial results cannot be expected in these cases. The mechanical stimulus of massage temporarily excites rather than soothes the ill-balanced nervous system. Drugs are contra-indicated and moral suasion is useless.

Should the patient's surface temperature be subnormal (*i. e.*, foot under 90° and palm less than 95°) moderately firm friction of the limbs and trunk should be employed to raise the superficial warmth. The bladder should be evacuated. The patient should leave the pack as soon as the previously retarded circulation begins to be accelerated. The night clothing should be well warmed and put on as quickly as possible.

With all four the recumbent position must be maintained in a quiet cool, well-ventilated room, the diet must be carefully modified, and daily massage performed.—A. Symons Eccles, M. B., in *Practitioner*, March, 1888.

PUERPERAL SEPTICÆMIA, PREVENTION OF. (Dr. J. A. Robertson, in the *Glasgow Med. Jour.*) I. Find out shortly before the confinement is due whether the nurse is engaged in attending any infectious case, or has in her home any case of an infectious nature; and if so, refuse to have her.

2. Inform the patient beforehand that you wish the lying-in-room to be devoid of carpet or curtains, and to have as little furniture in it as is compatible with comfort. Let the bedstead be iron if possible, and be very careful to see that there are no articles of clothing, furniture, etc., stowed away under it. If there be a choice of rooms, select one with a bright outlook; and while your patient is confined to it, let plenty of light into it, and as much fresh air as is consistent with safety to mother and babe.

3. If called to a midwifery case while in attendance upon any infectious cases, never go straight from one of the latter to the former. It is one's bounden duty to first go home, and there scrub oneself from head to feet and change every article of clothing. This should always be done, however urgent the call to the midwifery case may be.

4. When at a patient's bedside, care ought to be taken that every-

thing—fingers, sponges, instruments, etc., which may have to be brought into contact with the genital tract—be dipped in an antiseptic solution or smeared with an antiseptic lubricant. A free enema during the first stage, with the subsequent careful washing of the parts, is good practice.

5. Everything possible should be done to conserve the lying-in-woman's strength, as, *e.g.*, the prevention of greatly protracted labors by judicious assistance, the giving of chloroform, etc. After delivery. the thorough expulsion of the secundines is to be carefully carried out, The best means I know of for effecting this, and at the same time for causing uterine contractions, is to turn the mother on her back, put the babe to the breast, and with both hands firmly grasping the uterus, follow it downwards and backwards into the pelvis.

6. See that all blood-stained articles of body or bed-clothing be removed.

7. Allow the woman from the first plenty of suitable nourishment.

8. Use a vaginal douche of 1-4000 bichloride of mercury solution every day; and encourage the patient to change her position fairly frequently—from back to either side, and *vice versa*. The object of this is to dislodge clots, stagnating discharge, etc.

9. Allow no one to enter the room excepting members of the household for at least four days after delivery. There is no knowing what germs of infection an outsider may carry in.

10. Always take care that such articles as bed-pans, drinking-cups, etc., which may be borrowed from kind neighbors, or from a chemist, who lets such articles out on hire, be carefully washed in a strong antiseptic solution, before the patient is permitted to use them.—*Archives of Gynæcology, Obstetrics and Pædiatrics.*

DR. I. M. G. BEARD, of Ambia, Ind., writes thus to the *Med. and Surg. Reporter*, in regard to Wounds of the Palmer Arch: Having seen some recent articles in the *Reporter* in regard to wounds of the palmar arch, I thought it might be of interest to send the report of a recent case which came under my treatment. The patient was about to take the cap off a brass shot-gun shell, which had been snapped, but had missed fire, when it exploded, the sharp edges of the shell lacerating the hand severely, cutting the superficial palmar arch in such a manner as to cause profuse bleeding.

The treatment consisted in first ascertaining if there were any foreign substances lodged in the wound, then adjusting the parts, and applying subsulphate of iron on a wad of antiseptic cotton held in place with a bandage. Over this were placed two letter-bands, which made sufficient pressure to control the hæmorrhage. I was sent for in a few hours, and found the patient complaining of a good deal of pain in the hand and arm. One letter-band was removed and the hand elevated. The suffering was then greatly relieved. On the second day, the bandages were removed, and, on the third day, the cotton was soaked loose, when there was a profuse sanguineous discharge, which gave great relief. The wound was then dressed with lanoline ointment, with moderate pressure. After this, there was rapid recovery.

I forgot to say that, in this case, there was a backward dislocation of the third phalanx of the middle finger.

SPINAL MYXOMA (London Letter to *Philadelphia Medical Times.*)—A remarkable case which will become historical, was shown at the last meeting of the Royal Medical and Chirurgical Society. The patient was an officer in the Royal Navy who had placed himself under the care of Dr. W. R. Gowers, on account of complete loss of power and almost complete loss of sensation below the level of the fifth intercostal nerve. The limiting line of anæsthesia was well defined on the left side, less accurately on the right, but it did not reach higher than on the left; very severe pain, which was most intense at a tender spot just below and inside the lower angle of the left scapula, had been present for three years. The diagnosis of tumor of the spinal cord was made, and the intense pain combined with the other circumstances of the case to render an operation justifiable in this case if ever. Mr. Victor Horsley undertook the operation, he removed the spines and part of the laminæ of the fifth, then of the fourth, and finally of the third dorsal vertebræ; a small oval myxoma about 2.5 cm. in the long diameter was then seen, lying on the right side of the cord which it deeply indented, it was shelled out without difficulty; the operation was performed antiseptically, and the wound healed rapidly except where a drain had been left in; cerebro-spinal fluid continued to flow away for some time and for about four weeks the patient's condition did not appear to be much improved. Improvement then slowly began and when exhibited to the society, seven and a half months after the operation, he had regained almost completely both motion and sensation. The movements in fact could only be described as a little stiff; the cicatrix was strong and the laminæ had approached each other so that no external pad over the wound was used.

At the same meeting of the same society, Mr. Walsham read an interesting paper on the treatment of rupture of the bladder; the statistics given (also tabulated by Sir William Mac Cormac in *Abdominal Section, etc.,*) were strongly in favor of immediate abdominal section, closure of the bladder wound by Lembert's suture, and washing out of the peritonæum. Mr. Walsham reported a case thus treated, twelve hours after the injury, in a man 22 years.

THE MICROBE OF ACUTE ARTICULAR RHEUMATISM.—In a short preliminary note in the *Meditzinskia Pribavlenia k' Morskomü Sbornikü*, November, 1887, p. 401, Dr. J. P. Popoff, senior house physician to the Marine Hospital in Nicolaev, states that after prolonged and laborious researches he has succeeded at last in discovering and isolating the pathogenic microbe of acute articular rheumatism. Having obtained with all sterilizing precautions, a drop of blood from the finger of a febrile rheumatic patient, the writer introduced it into a test-tube with meat-peptone bouillon kept at an ordinary room temperature (18° or 20° R.) By the end of ten days there was found a superficial growth in the shape of "islets of a bright lemon-yellow color." "Similar citrine patches, having the consistency of a somewhat thin jelly, were obtained also on the potato slice." Under the microscope "the patches proved to consist of motionless cocci, partly isolated, partly forming rows or chains." The cocci were "smaller than those of Nessler, but larger than those of erysipelas." They took in Weigert's gentian violet. The identical micro-organisms were also detected by Dr. Popoff at the *post-mortem* examination of a rheumatic subject in the synovial fluid from inflamed joints and in the heart." An injection of the cultures into the external jugular vein in two rabbits "gave rise to acute articular rheumatism with pericarditis and endocarditis." In both of the animals (subsequently killed) the synovial fluid, and "sections from the heart" were found to contain the same micrococci. The staining procedure is given thus: "Specimens are placed into Weigert's solution for half an hour, and are gently heated every five minutes. Sections from the tissues (heart) are kept in the solution every twenty-four hours. After washing out with distilled water they are put for five minutes into Gram's iodine solution then into alcohol, and, after drying, are mounted in Canada balsam. The tissue specimens should be kept, in addition, before mounting, in clove-oil." The incompleteness of this "preliminary communication is too obvious to be dwelt upon, and too considerable to call forth any "preliminary" criticism in regard to the essence of the matter. No drawings are presented. Dr. Popoff does not mention whether he is acquainted with Dr. Alfred Mantle's researches concerning the bacteriology of acute rheumatism, published in the *British Medical Journal*, June 25, 1887, p. 1381.—*Medical Age.*

A TRUSS FOR MOVABLE KIDNEY.—Dr. Niehans, of Berne, has recently devised a special truss for the palliative treatment of movable kidney. The instrument is described in the *Centralblatt für Chirurgie*, March 24th, 1888. He observes that Lindner, who has recently written on the affection in question, strongly recommends the treatment by bandaging, since it palliates the severe pain which so often accompanies the displacement of the kidney. Extirpation of the kidney is a perilous proceeding, not only on account of the risk of the operation itself, but also because the surgeon cannot always feel certain that the opposite kidney is in working order. We may note that Landau, in his standard work, translated for The New Sydenham Society by Dr. Champneys, in 1884, strongly discountenances the operation, and shows that not only is the fellow kidney occasionally diseased, but that Beumer has collected, out of a long series of cases of movable kidney, no fewer than forty-eight where only one kidney was found. Nor, Landau warns us, must we assume that one healthy kidney can always satisfactorily discharge the renal functions. Dr. Neihans does not think that the published results of nephrorrhapy, or stitching the kidney, on Hahn's principle, are encouraging. Pads, such as those advocated by Guéneau de Mussy and Lindnes, are hot, uncomfortable, and readily displaced; and Dr. Neihans does not notice Landau's "artificial abdominal wall," simply stays lengthened as far as the pubes and Poupart's ligaments. He had under his care in August, 1887, a woman, aged 23, who suffered from pallor, dyspepsia, constipation, nausea, and other symptoms, as well as the usual pain caused by movable kidney. The condition evidently existed in her case, and she wished the offending organ to be extirpated. Dr. Niehans, however, contrived an apparatus which afforded her great relief. On the principal that the basis of support should be at the pelvis, he made an ordinary double inguinal truss. To this was fitted a steel spring, which ran vertically upwards for a few inches and then bent inwards, fitting by a ball-and-socket joint into the back of a concave steel pad, oval, with its long axis horizontal. The spring was contrived so that it could be fixed on the truss in such a position as to allow the pad to lie over the right place on the abdomen. The pad, well lined with soft material, was held in place by an elastic waistband which buttoned on to its right and left borders. This band was made light and not too strongly elastic, lest it should pull up the truss. The pad was thus placed at the proper level, the spring next made fast to the truss, and then the kidney was pressed backwards and the waistband fastened; the patient in the meanwhile lying on her back. The apparatus was taken off at night. The patient was delighted with the result, all unpleasant symptons disappeared, and she was recently in excellent health.

ANGIOMA OF THE FOREHEAD.—The *Revista de Ciencias Medicas*, of Havana, of August 20th, contains an account of a case of angioma of the forehead which was successfully treated by electrolysis. The patient, who was under the care of Dr. Raimundo Menocal, was a little girl, æt 2 years. The tumor, which was of the size of a large filbert, was smooth and soft; it was of violet color, and could be reduced by steady pressure. It had appeared soon after birth, and was growing gradually larger. Elastic compression had been tried without result. On August 6th, Dr. Menocal applied electrolysis, introducing the needles in various parts of the tumor, but always with the points towards the centre of the mass. The application, which was continued for three minutes at a time, was repeated every three days. The tumor was somewhat dimished in size after the first sitting; at the fourth, eschars were observed about the negative pole, which were thrown off a few days later. This was followed by a little suppuration, but there was no hæmorrhage. At the date of the report no trace of tumor remained except a few tiny scars.

OPERATIVE TREATMENT OF PERITONITIS.—Dr. Luecke, of Strasburg, has reported the following case (*Versammlung Deutscher Naturforcher und Aertzte*, *Wiesbaden*). A youth, aged 16, drank a glass of beer, and soon afterwards felt severe abdominal pain. He was admitted into hospital with all the signs of acute peritonitis; temperature, 106°. The abdomen was opened the same evening, and half a litre of pus removed; it was then washed out with weak sublimate solution, and a thick drainage-tube was placed in Douglas's pouch. The patient went on well for six weeks, when a subphrenic abscess developed on the right side, which soon broke into the pleural cavity. Resection of the seventh rib was performed, and drainage instituted with perfect success. There was doubtless a latent intestinal ulcer with first perforative peritonitis, and subsequently localised peritonitis, which broke through the pleura. Dr. Heuser, of Barmen, has lately operated in three cases of perforation of the vermiform appendix. Two of the operations were successful, but in the third there were metastatic abscesses in the liver, which soon caused death. In each case the abscess was sharply defined though without extensive adhesions. Dr. Heuser think that many such cases which end fatally might be saved by surgical treatment. Dr. Czerny, of Heidelberg, operated in perforative peritonitis in an obscure case; a large quantity of odorless gas escaped, and the stomach was found adherent to the liver and interior abdominal wall. The intestines were normal. Unfortunately no attempt was made to free the stomach, and the patient died on the fourth day. On *post-mortem* examination there was found a gastric ulcer and subphrenic peritonitis. An odorless gas in such cases indicates perforation of the stomach; a fœtid gas intestinal perforation.

SIR WILLIAM ROBERTS ON ALCOHOL.—Of all the things that are most "spoken against" nowadays, perhaps alcohol is the first. It has been called the "devil in solution." But that does not prevent the medical profession from "giving the devil his due," and accordingly, though it has been extremely careful of late years in the prescription of alcohol, and much given to the curtailment of its use, even when patients thought they were using it moderately, some of our greatest physicians and surgeons have felt constrained to testify in its favor, and to argue that it has, or must have, some virtues, not only as a medicine, but as a drink and as a diet. The latest instance is not the least significant. Sir William Roberts delivered last week, to the Medical Society of University College, an address on Alcohol from the point of view of History and of Natural History. The burden of Sir William's argument was that nations which use alcohol compare favorably with nations that do not. Their achievements are greater, and their rate of mortality is less. The natious which use most alcohol show the smallest death-rate. Sir William said truly that the bad effects of alcohol were obvious enough. They obtrude themselves in every street and on every family. The corse lesions of excessive drinking are the most obvious things in the dissecting room or the pathological museum. But it is not so easy to be just to the good effects of alcohol. They are not so palpable, but they may be equally actual. It may ward off disease, and it may offer effectual resistance when disease invades the frame. It may contribute to a bolder, braver, and more powerful national history. Such an argument is, of course, not new. It recalls the arguments of Sir James Paget, the late Dr. Moxon, and others a few years ago. It is what many think, but what all have not the courage to say in face of a public opinion strongly urged to a different estimate, and strongly supported in such an estimate by high medical authorities. No one will deny, too, the special authority of Sir William Roberts in such a question. At the same time, we are bound to say that there is need for more specific facts on the side of those who tell us that a lower death-rate obtains among the nations that drink hardest. Sir William Roberts himself said, and with obvious truth, that such a statement was not tantamount to saying that the high drinking-rate and low death-rate were to be regarded as cause and effect. Have we any proof that alcohol saves men from any specific form of disease? Some say that it tends to save from tubercular disease; some from cancer; some from infectious diseases. There is a want of proof. But there are actual facts to show that corse drinking favors death by consumption and death by cholera. And let it be remembered that it is the corse drinking that characterizes, according to Sir William, the nations with the low death-rate. As to the case of malignant disease, we do not recall for the moment any actual statistics. Is Sir William prepared to maintain that the western nations, to preserve their superiority, are to continue to drink in the old quantities? For it is the quantity that he associated in his address for the great results of health and history. We have a great deal of hard work to do before we can determine the *rôle* of alcohol in life and history. We have other great factors to consider—race, climate, sanitation, religion, and morals. Meanwhile let teetotal dogmatism take note of the weighed words of Sir William Roberts.

AN ACT to Amend the Charter of St. Mary's Hospital of the City of Brooklyn, and to Enable Such Corporation to Establish a Medical and Surgical College in Connection with the Hospital now Maintained by them.—We are indebted to the Hon. Eugene O'Connor, Senator, for a Copy of the Bill Establishing a Medical School at St. Mary's Hospital.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1.—The St. Mary's Hospital of the City of Brooklyn, a corporation duly incorporated under and by virtue of the laws of the State of New York, is hereby authorized and empowered to establish and maintain in its hospital and upon the lands and premises in the City of Brooklyn, where it is now or hereafter may be located, a medical and surgical college for the promoting of medical science and instruction in the department of learning connected therewith, and said corporation shall possess full power and authority to make and establish all rules and regulations necessary for the government, protection, and advancement of such medical and surgical college, which college shall be known and designated as "The College of Physicians and Surgeons of St. Mary's Hospital of the City of Brooklyn." And the said corporation is hereby authorized and empowered to establish and maintain a faculty of medical and surgical professors and teachers in connection with their said college, and shall have power to grant and confer the degree of doctor of medicine upon the recommendation of the faculty of such college; but no person shall receive a diploma conferring such a degree unless he shall be twenty-one years of age and shall have received a good education and pursued the study of medical science at least three years after the age ot sixteen with some physician and surgeon duly licensed by law to practice his profession, and shall also after that age have attended two complete courses of lectures delivered in an incorporated medical college, the last of which courses shall have been delivered by the professors of their college. In testimony of conferring such degree, a diploma, signed by the president and secretary of said corporation and the professors of such college, to which shall be affixed the corporate seal, shall be delivered to each recipient of said degree, which diploma shall have the same force and effect as a license to practice physic and surgery, as given by law to the licenses granted by any incorporated medical society in this State.

SEC. 2. The said corporation shall also have the power to establish and maintain upon the lands and premises occupied by it an infant asylum, to be known as the "Infant Asylum of the City of Brooklyn" at St. Mary's Hospital, in which said corporation shall be allowed to keep and maintain and educate infant children of the age of two years and upwards, and to establish all needful rules and regulations for the admission and discharge of such infants, and for their proper care and government while there.

SEC. 3. The said corporation, the St. Mary's Hospital of the City of Brooklyn, shall possess all the power conferred by chapter eighteen of the first part of the revised statutes, so far as the same may be applicable thereto, and in like manner be subject to the provisions thereof, so far as not hereinbefore exempted therefrom.

SEC. 4. This act shall take effect immediately.—*Brooklyn Medical Journal.*

WOUND OF INTERNAL MAMMARY ARTERY: HÆMATOMEDIASTINUM.—A remarkable case under the care of Madelung has been reported in the *Berliner Klinische Wochenschrift* and in the *Centralblatt für Chirurgie*, No. 19, 1888. On September 2d a man æt. 39, was stabbed with a knife in the head, thorax, and abdomen, but little hæmorrhage was noticed. He walked one hundred paces, reaching his dwelling, where it was found that intestine had prolapsed through the abdominal wound. Twenty hours after the injury he was taken in a wagon to the Rostock Infirmary, after a journey of over an hour. The intestine was reduced, having been left alone till admission, and the abdominal wound sewn up. The thoracic wound was on the right side, parallel to the third rib, beginning close to the border of the sternum. It was four-fifths of an inch long, and no blood escaped from it at the time; it was drained and sutured. There were no signs of cardiac or pulmonary mischief. On the evening of September 13th, after doing well for many days, pain and dyspnœa troubled the patient, and hæmorrhage occurred from the thoracic wound, which recurred on the evenings of the 14th and 15th, so that the patient became anæmic. On September 16th Dr. Madelung opened the wound. The right third costal cartilage was cut through close to the sternum. Arterial hæmorrhage was observed above and below the cartilage, about an inch of which was resected. A cavity in the anterior mediastinum, "the size of a goose egg," was exposed; it was full of clot. An inch of the fourth costal cartilage was resected; in so doing the operator opened the pericardium. Apparently that serous sac had been opened by the stab, and had speedily closed, the operation breaking down the adhesions which closed it. Much hæmorrhage accompanied the opening of the hæmatomediastinum, the blood gushing from the lowest part of the wound. Dr. Madelung therefore tied the internal mammary artery in the fifth intercostal space, in its continuity, when the hæmorrhage ceased. The cavity was packed with iodoform gauze, and a tampon of the same material was placed over the wound in the pericardium. The patient recovered. Dr. Madelung believed that the abdominal wound did well because no clumsy attempt to reduce the gut had been made by the patient's friends. He insists that, when the internal mammary artery is divided both ends should be secured, on account of the innumerable anastomoses, especially with the deep epigastric.

MEDICAL NEWS AND NOTES.

A VERY successful treatment for yellow fever, in vogue in Rio Janeiro, in 1875, consisted in confining the patient to bed, giving him a little water frequently, and nothing else. It was claimed by its advocates that the stomach is in no condition to digest food, and its ingestion only served to bring on the black vomit, which was frequently avoided if the stomach remained empty.

In one case a patient was kept for seventeen days without food, and recovered.

The results of this system were at that time reported to be remarkably good.

MR. R. CLEMENT LUCAS reports a case in the *Lancet* in which a tumor of the right ovary in a child of seven was associated with precocious puberty. The child menstruated, her mammary glands were firm and the size of oranges, and the pubes were covered with hair an inch in length. Mr. Lucas removed the tumor (which was a round-celled sarcoma), after which the menstruation ceased and the breasts became flattened.

IT is much to be regretted that the Southern Surgical and Gynæcological Association could not hold its proposed meeting in Birmingham in September, as announced. Owing to quarantine against yellow fever, the meeting has been postponed till the first Tuesday in December.

THE SEVENTH ANNUAL ANNOUNCEMENT of the New York Polyclinic and Hospital, a clinical school for graduates in medicine and Surgery, has been received. The class for the session of 1887–8 numbered 337, an increase of 36 over the preceding year.

The changes in the Faculty are the appointments of Dr. Henry E. Heinemann, Professor of General Medicine, and Dr. Charles Stedman Bull, Professor of Ophthalmology.

The New York Polyclinic Hospital will be opened in October. The preliminary term begins September 17th, and the regular term on September 24th.

DR. THOMAS TAUNTON SABINE died at New York City, August 23d, aged forty-seven years. He was a prominent surgeon, and was connected with Bellevue, St. Mary's, and other hospitals, but he is best known as the Professor of Anatomy at the College of Physicians and Surgeons, to which chair he was promoted in 1879, following Dr. Sands in that position, when the latter became Professor of Surgery.

THE CINCINNATI SANITARIUM has just ended its fourteenth year of usefulness. This institution is a private hospital for the care and treatment of insane persons, with facilities for the treatment of other persons suffering with other forms of brain and nervous disease. Alcoholism and the opium habit are treated.

The buildings are located on the height north of Cincinnati known as College Hill, 500 feet above the level of the Ohio River. Beautiful scenery and best of climate.

The success of the institution speaks for itself.

MR. REGINALD HARRISON, of Liverpool, and Dr. Durham, of Guy's Hospital, London, were present at a clinic in Bellevue Hospital on the 25th ult., and made a few remarks.

ON the evening of September 25th, a banquet was given at the New York Hospital, by Drs. Weir and Bull, in honor of Von Esmarch of Kiel. Many of the most distinguished representatives of the profession were present.

VON ESMARCH, of Kiel, held a surgical clinic in the amphitheatre of Bellevue Hospital, September 29th. It is needless to say that only the students of the various colleges, but many of the profession took this opportuuity of seeing and hearing him.

BILL NYE was invited to attend the banquet of the Pennsylvania Medical Association, but being busy with his preparation to challenge

Jno. L. Sullivan he could not attend. At an appropriate hour the following telegram was read:

"DR. FRANKLIN HAYS, Denison Hotel.
Sorry I can't be there. May you and associates continue to take life easily as heretofore.
BILL NYE."

Those who caught on got the idea, and those who got the idea knew what all the rest were roaring about.

DEUTSCH-MEDICINISCHE-SCHRIFT-SUCHT; OR, THE GERMAN MEDICAL-JOURNAL HABIT.—Dr. John S. Hawley closed an address on the above subject before the Hospital Graduates Club with the following "song," which we copy from the *Medical Analectic*:

If we write so that nouns with their verbs don't agree,
That's German, you know, quite German, you know.
If our meaning obscure and involved seems to be,
It's German, not English, you know.
But that kind of writing you read in Berlin,
In Heldeberg, Wien, where we've frequently been,
Don't mind how you end, if you only begin,—
Is German, quite German, you know.
O the queer things we do, and the queer things we see
Are German, you know, all German, you know.
No man in this wide world a surgeon can be
Till he's German, all German, you know.

We spend all our money to emulate Koch,
He's German, you know, born a German, you know.
We cultivate germs tho' our raiment we "hock"
With our uncle, who's German, you know.
We bully our confreres with Volkmann and Braun,
With Virchow and Schroeder their arguments down,
And we knock them all out with Esmarch's renown,
They're Germans, native Germans, you know.
O the queer names we hear, and the queer names we quote,
Are German, you know, all German, you know,
We speak them, tho' each gives us a pain in the throat,
For they're German, true German, you know.

We take out the stomach and resect the gut,
That's German, you know, quite German, you know.
The leaves of the journals in public we cut,
When they're German, true German, you know.
Our talk has a bacteriological drift,
We pay "twenty marks" for a pipe, for a gift,
And we quote from the *Berliner klin Wochenschrift*,
Which is published in German, you know.
O the marvelous statements that come from afar,

Are German, you know, all German, you know,
But of course it's all right if its German—*nicht wahr ?*
That's the German for " aint it ?" you know.

We think it improper to poultice a boil,
No German you know, would do so, you know,
And we make salad dressing with carbolized oil,
That's the custom with Germans, you know.
With carbolic inhalers we muzzle our jaws,
We wear underclothes of iodoform gauze,
We ignore the effect, and big talk about cause,
Which the Germans do always, you know.
O the queer things we do and the queer ways we live,
Are German, you know, all German, you know,
Of squaring the circle the method we'll give,
Or some German will give it, you know.

We consider a coccus the cause of a gleet,
That's German, you know, quite German you know,
We dress a cut finger in a haystack of peat,
That's German, true German, you know.
We put in a gum larynx and a celluloid tongue,
We exsect the spleen, and we resect the lung,
We save at the spigot, and leak at the bung—
O we're German, we're German, you know.
But the queer way we feel when we count up the slain,
Is not German, you know, no, not German, you know.
And we've not enough nerve yet, to exsect the brain,
As the Germans will soon do, you know.

We write in the journals a great deal of rot,
As do Germans you know, tho' they're Germans, you know,
And we seek a small pin in a ten-acre lot,
For the Germans can find one, you know.
We discard the choice meat and chew on the bone,
We refuse the good bread and grasp at a stone,
We hoard oyster shells and the pearls leave alone,
That's German, true German, you know.
O the queer things we do, and the queer things we write,
Are German, you know, all German, you know.
We will swear that the ace of the spade suit is white,
If some German but says so, you know.

On sterilized pap our young infants we feed,
That's German, you know, quite German, you know,
And we hope by such means to improve on the breed,
For the Germans advise it, you know.
In training a puppy, or raising a foal,
In the search for an office, or the seat of the soul,
Or how to fit a square stick to a circular hole,

We get points from the Germans, you know.
O the queer tricks we play with our young babies' milk,
Are German, you know, all German, you know,
Of sow's ears we make purses of superfine silk,
By a process that's German, you know.

We pour down the beer as though filling a tank,
That's German, you know, true German, you know.
And we eat Sweitzer Kase and Limburger rank,
That's German cheese with the gangrene, you know.
Frankfurters we love, and sauerkraut, too,
And we make no mistake when the spring Bock we brew,
But we bite off more science than we ever can chew,
When we follow the Germans, you know.
O for the queer things we eat, and the good things we drink,
Thank the Germans, you know, bless the Germans, you know,
But we ball up our science, and our good sense we kink,
When we try German methods, you know.

—*Boston Med. and Surg. Journal.*

◆

EDITORIALS.

THE YELLOW FEVER AT JACKSONVILLE.—Since the great epidemic of yellow fever, a number of years ago, which gutted and depopulated Memphis, this country has practically been free from the ravages of this scourge. Memphis has fortified herself since that time by arranging a system of drainage which is well-nigh perfect in theory and practical operation. The consideration of the present epidemic in Jacksonville leads all scientific minds to recur to the *prima causa* of the disease. It is characteristic of certain regions, growing best and with greatest luxuriance in certain Southern localities, its points of predilection in this country being quite definitely marked, if one is to judge from its positions in the past. It is quite evident that it will not grow with any degree of luxuriance in Northern climates, hence its cause must need the influence of all those traits of a Southern climate which differ from those of a Northern one. Now, of course, there is vegetation in the North as well as in the South, and it is even exuberant in the North in the summer. There are elements in the Southern vegetation which are not in the Northern, and hence the continuous, steamy warmth of some portions of the South must be the life-preserving breath of the cause; and the Southern vegetation, or simply vegetation generically influenced by this peculiar warmth, must be the pabulum on which the cause feeds

The finger of wisdom and expediency points us to germs for the cause of essential fevers, those that have a definite life history. There is little doubt that yellow fever is an essential fever, and that it has its phases, its periods, its stages, arranged by the irrefragible laws of nature, and that no man as yet has arrested it in its development or snatched from its life a single moment, unless perhaps the life of the individual affected has been snatched away at the same time. There certainly exists some similarity between yellow fever and malarial fever in a variety of particulars, and there certainly exists a decided similarity between it and the hæmorrhagic fever of some portions of Virginia and North Carolina. It seems to be the opinion among those who have had the greatest experience in the treatment of the latter fever that it is only an exaggerated form of malarial intoxication. The skin is often as deeply dyed as in the case of yellow fever, and the prognosis, so far as unacclimated people are concerned, is almost as unfavorable. It is endemic, however, rather than epidemic.

Can yellow fever be stated to be an epidemic disease? Is it something that can be transmitted from place to place, that can grow from a nidus of infection which has been transported to an uninfected region? We have already stated that it grows only, or at least best, in certain Southern localities; certain surroundings are then necessary for its life. We know that this is the case for the malarial germ (?), but we know that malaria is *not* transmitted from place to place, as infectious diseases are. The cases in which epidemics of yellow fever have been started from transported material have been those of cities that lie in regions unquestionably favorable to the disease.

As we do not admit that disease originates *de novo*, we must admit that in such cases the material was imported. Such regions presented suitable soil, and the disease reproduced itself. Yellow fever differs from malarial fever at least in so far as propagation from place to place is concerned. It differs from hæmorrhagic fever in this respect, too, though it presents many clinical features that are similar. There seems to be little proof that yellow fever is directly contagious, as typhus fever is; it appears to be acquired by virtue of the general impregnation of the atmosphere of a tainted locality, rather than of direct contact with the person affected or his belongings.

That a person may be infected with the poison and develop yellow fever typically in an unpropitious climate has been demonstrated frequently, but eminently so by the late case of death from yellow fever in New York, the disease having been contracted by a well man while in the South. Such a case in a far Southern country would in all probability have been the focus of an epidemic. What value has quarantine in this disease? The fact that a number of cities in the vicinity of Jacksonville have gone "scot free" so far proves that quarantine may be efficient, and that if only the specific cause be kept out the fever cannot arise; in other words, this fact is proof that the disease does not originate *de novo*. The justice and wisdom of strictly quarantining every city in the far South cannot be doubted; the individual must be sacrificed to the community. After infection has once taken place in a community, it seems practically impossible for it to be restricted to one spot.

We cannot conceive, however, where an infection has taken place in a house, why that house is not burnt to the ground and the whole region round about disinfected with a strong solution of bi-chloride of mercury. The efforts of the people of Jacksonville to disinfect their city were at once earnest and ridiculous. To dig about and ransack the numerous negro houses in such a city as Jacksonville when once the fever had taken hold of it, was simply to prepare inviting beds for the microbes on which to rest and recuperate their energies. The theory of shocking the atmosphere by severe cannonading was soon abandoned. The only apparent advantage of this was to relieve the minds of the inhabitants by creating the impression that something effective was being done. It is barely probable that some good was done in this way; the shock to the air may have destroyed some floating microbes, but it should be remembered that they pass into the air only after they have been generated on the earth among the people and in the soil. The city, moreover, was whitewashed in the vain hope that the disease might be checked by the chemicals contained in the solution. This only served to sustain the flagging confidence and hopes of the unfortunate inhabitants, and formed a striking contrast with the rottenness and decay that were disporting themseves under an emblem of purity. The time has probably passed when disinfection would have been of advantage; all that can be done now is to cleanse the city of what is superficial, to nurse those who have fallen and to trust in God for a speedy frost. It is to be hoped that Jacksonville will learn the lesson that Memphis has learned and prepare herself for the future, after this epidemic has passed.

It cannot be said that the epidemic is severe in type; there are not lacking some—not in Jacksonville—who are of the opinion that the disease is not yellow fever at all but rather a severe form of malarial fever. Nomenclature is of little value save from a scientific standpoint; suffice it to know the wretched people are dying of it whether it be malaria or yellow fever. It has been growing for about two months, and within the last week or two has increased its speed to an alarming degree. During the twenty-four hours ending September 28th, there were 131 new cases with 8 deaths. The total number of cases to the above date are 2,368; the total number of deaths to same date, 237. This makes a very small percentage of deaths from yellow fever, and proclaims a mild type of the disease.

Sad and to be commiserated as is the condition of affairs in the stricken city, it nevertheless furnishes occasion for the exhibition of great courage and self-sacrifice.

It is a matter of which we are proud that the physicians of Jacksonville have without an exception stood manfully by their trusts, and have answered all calls upon their time, strength and skill with the courage and devotion of heroes.

Already several have succumbed to the disease, doubtless worn out in the service of their fellow men. They are dead, but they fell in the cause of humanity and love, with a devotion to their duty that emulates the Great Physician himself, and their memories like those of many others who have given their lives for others, will remain glorious, honored and sung till the end of all time. We must not forget those whose duty it is to sit by the bedsides of the stricken, to watch the course of the disease, to faithfully fulfill the directions of the physicians—surely a task more difficult, more trying, and requiring more fortitude and tenacity than that even of the physician himself. To them let equal honor, at least, and gratitude and admiration be given as to the physicians.

If we admire the devotion of those who are indigenous to the place, we cannot fail to admire more those whose courage permits them to volunteer their services. To fight the black sergeant when he presents himself is courageous, to seek to encounter him requires an irrational disregard of danger or the most sublime self-sacrifice.

The expression of pity and the pecuniary assistance for the unfortunate sufferers is everywhere seen and found, but let us not forget the beautiful example of heroism set by all those who risk their lives to carry aid and cheer to their suffering fellow mortals.

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ORIGINAL ARTICLES.

ARTICLE I.

THE RELATION OF THE ABDOMINAL SURGEON TO THE OBSTETRICIAN AND GYNÆCOLOGIST.*

By A. VANDER VEER, M.D., Albany, N. Y., Professor of Surgery, Albany Medical College; Attending Surgeon, Albany Hospital; Consulting Surgeon, St. Peter's Hospital; Fellow British Gynæcological Society; Fellow of the American Association of Obstetricians and Gynæcologists.

Mr. President and Gentlemen:

As I study the Constitution, By-Laws, and make-up of this new Society, I observe that we have brought together elements which, if properly harmonized, and "the principle of unity and research" preserved, cannot fail to benefit ourselves as individual members; and also that the influence which will go out from us will be for good to our profession throughout this broad land. In the paper I now present to you, I shall endeavor to bring out the points of the specialty which I in a small degree represent, and in such a manner as I trust may result in mutual good to us all. I have, in revolving in my mind the subject of this paper, been led to ask the question: Is there such a department as Abdominal Surgery in our profession?

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* Read at the Meeting of the American Association of Obstetricians and Gynæcologists, held in Washington, September 19, 1888.

That was a grand union when surgery, freed from its barbarisms and ignorance, and no longer associating with, or being part, of the "Barbers' Company" united in honorable wedlock with medicine, and helped to establish that household in the healing art, from which many of us, who are here to-day, have seen springing and going out the most of the grand specialties that have done so much for suffering humanity. We have seen ophthalmology, otology, gynæcology, dermatology, neurology, laryngology, and many other specialties develop and grow, and with such vigor that medical colleges have found it necessary to provide professorships for them; and hospitals have made appointments of attendants, peculiarly fitted by study, education, and clinical observation, to treat such cases as were necessarily relinquished by the active and general practitioner in medicine. Just here I wish to quote from an address delivered not long ago by Virchow, who said: "Within twenty-five years the great host of specialties has developed; and it would be vain—anyhow fruitless—to oppose this tendency; but I think I ought tó mention it here, and I hope that I shall be certain of approval when I say, that no specialty can flourish which separates itself entirely from the common source of science; that no specialty can develop fruitfully and beneficially, if it do not ever and anon draw from the common fountain, if it do not take the other specialties into account, and if all the specialties do not mutually assist one another; thereby acknowledging a fact which is not always considered necessary for practice, receiving knowledge through that unity on which our position internally, and, I can also say, externally rests. It would be the most foolish and dangerous development if the system of specialties should ever come to such a pitch that special schools were to be founded in which special branches were taught without any knowledge of the other things offered us by the science of medicine."

I would say, all this positive and signal advance has been made, not in the spirit of hostility to general medicine, but to render aid to one another as we work against disease, and to make comfortable our suffering fellow-beings, and to add to the length of human life. Surgery has not accomplished it entirely alone. She has had the assistance of true medicine, but in doing what she has done she has undoubtedly advanced medicine in a very great degree. To-day, and for the past ten or fifteen years, there can be no doubt that surgery, as represented in the work of our societies and in our text-books, has led to medicine. One has but to consult our excellent medical journals to be convinced of this assertion. Of those who still remember the crusade that was early made against Ovariotomy, which was but the beginning of Abdominal Surgery, and who cherish the belief that the latter is not yet a distinct part of General Surgery, but so limited as to scarcely command special attention, I would inquire: Why is it that special works are being published on Abdominal Surgery alone, and meeting with ready acceptance by the profession? and why is it that institutions that not many years ago issued commands that no abdominal section be done in private room or public ward now build wards for abdominal surgery and encourage the work by every manner of special appointment as to nurses, care, surroundings, etc.? Especially so can this be said of the Massachusetts General Hospital. I believe it safe to assert that Abdominal Surgery may be said now to be a part of the specialties of Obstetrics and Gynæcology. Just here I wish to assert that our profession is so great, and the benefit to it so marked, from year to year, that specialties must continue to exist and in close relation. Would general hospitals have done what they have to accommodate specialists but for the fact that the latter in their special hospitals and otherwise have demonstrated the necessity for such work? I am proud to say that in this country there are many hospitals that have both an obstetric and gynæcological department, and this, I am sure, is a necessity that all general hospitals will have to meet. Has not the work of such men as the late Drs. S. D. Gross, Tait, Parkes, Sands, Weir, Senn, Greig Smith, Bull, and a host of others now living, whom I might mention, demonstrated the fact that abdominal surgery has become a specialty? If we inquire into the manner of its development, we find that it has been the outgrowth of work done by the general practitioner. Not content to go on in the beaten track, he has seen fit to break away from tradition, and by careful, and, it is true, bold innovation, established methods in practice that have resulted in untold good. I remember with much pleasure a conversation I had with the elder Gross but a few years previous to his death, in which he stated that his experience and observation had taught him that they made the best specialists who, having engaged a number of years in general practice, finally confined themselves to that special department for which their studies, inclinations and clinical observations and experiences had best fitted them. I am firm in the belief that these words apply with particular reference and force to him who attempts to practice as an abdominal surgeon. When we consider that every organ within the abdominal cavity is subject to surgical treatment, if from disease or traumatism it becomes necessary, it is difficult to conceive of a specialty that requires more careful knowledge of the minute and gross anatomy of the parts in and among which he is to do his work, or greater coolness and experience as an operator, or technique as an antiseptic surgeon.

As I have stated in previous papers, I am convinced that it is a specialty that must have for its successful issue certain operators assigned to certain territorial limitations. Many of the cases that call for treatment cannot be transported far, and the surgeon must go to them, though the surroundings may not be so good as in a well-regulated private hospital or sanitarium, yet the abdominal surgeon learns by repeated experience to make them comparatively safe.

The intelligent public of to-day know so well of the advances made in this department of surgery, that every medical centre is presumed to have some one surgeon fully capable to cope with the sudden accidents that may and are so apt to occur to this portion of the human body. Does this same public opinion call for a gynæcologist, be he ever so prominent, in a case of gunshot wound, intestinal obstruction (acute or chronic), or an abdominal traumatism? Is it not likely to be some surgeon in general practice, and especially one who has made abdominal surgery a study, and is not this opinion likely to receive the indorsement of the profession at large in that locality.

The operation for removal of a simple, uncomplicated ovarian cyst is probably the easiest operation that occurs in all the range of the major operations in surgery, but when we come to do the operation embarrassed as it may be by all the complications now known to us, it becomes one of the most difficult of all operations. The surgeon in its performance requires the greatest amount of skill, cool judgment, experience and familiarity with the contents of the abdomen. Therefore, when operations are to be done for the relief of the traumatisms that may occur to the intestinal tract or pathological changes therein that endanger life, or when the liver, gall-blander, pancreas, spleen, kidneys, supra-renal capsules, the ureters, bladder, the uterus and its appendages, the appendix, the mesentery and all that pertains to the abdominal cavity in its pathological changes of whatsoever nature requires operation, it is then the calmness and experience that come from years of study in the post-mortem room, and of continued practice in general surgery, become of the greatest service to the patient and of benefit in the compilation of successful tables of recoveries. Wells, Tait, Keith, Peaslee, Sims and others were once engaged in general practice. I would not be understood as doubting that many obstetricians and especially gynæcologists have all these requirements to a large degree.

Notwithstanding all that has been done within a short time by obstetricians, gynæcologists, or abdominal surgeons to advance abdominal surgery, we are yet at the half-way house on the road leading to complete success, for not yet is made clear the best manner of operating, the best place for the operation or the best way of dealing with all the various complications. Our entire profession must yet be taught much that pertains to abdominal surgery, and it must to a great extent be done by men of creative genius: men who seeing the work before them, and though not meeting with success at first, yet have the patience to work with method and preseverance, with earnestness and sincerity to accomplish that which will do what is yet required. The public are expecting much from us, and our work in this branch of surgery must be such as to command their entire confidence and utmost respect. In our society meetings, in the presentation of papers, and in our discussions we must be honest, and not hesitate to present our mistakes along with our successes. And then another good in societies like this where men of various thoughts working along different lines come together is that we not only learn of points in operative surgery but all that pertains to the use of drugs, etc., in the palliative and conservative treatment of cases that come under our observation.

As regards the profession at large, think of it, only a short time since at a discussion before one branch of the British Medical Association there were only two or three present who were able to clearly define the improved Sänger operation, or knew much about the Cæsarian section.

What we need is not the elaborate presentation of theories by long and well prepared papers, or the advancing of them with an emphasis that forces conviction for a time and then a reaction that leaves us to doubt and cynicism, but rather the offering of practical papers that will, give facts, and the accumulated wisdom and experience of honest workers. We should encourage the reporting of cases as has been done by many workers, both in this country and abroad, and study carefully the hard laborious practical experiments of Senn and his associates.

Specialism in society work and in journalism should be encouraged by the profession at large. It is only in this manner that the traditional errors transmitted frequently from one text-book or from one edition to another are corrected. Perhaps one of the greatest benefits to the profession in our time and which has been developed so thoroughly abroad is the writing of prize essays on some especial subject.

Equally so are we indebted to those who in this country have edited and published encyclopædias upon medicine and surgery in which the very best specialists have been employed to write up the different subjects. The result has been that the great thinking and reading portion of our profession, go where you will, have in their libraries and at their command the most advanced thoughts and experiences from which to draw when treating their difficult cases. I wish to emphasize the admiration I have for the out-of-the-way practitioner in some far away lonely town where his lot has been cast who is so often obliged to rely upon himself. He does his work in many instances more bravely than his city brother who has but to call upon the specialist near at hand to help him out by consultation and otherwise. Think of Bopps in his first cholecystotomy, of McDowel in his ovariotomy, of Sims working out the early problem that presented in his gynæcological work. Also of the elder Atlee and Kimball, and that quiet and earnest man of whom we are just learning when he is sleeping the sleep of death. I refer to the late Dr. Walter Burnham, of Lowell, Mass., whose three hundred and thirty-eight cases of abdominal section have just been reported by his grandson, Henry P. Perkins, Jr., M.D., in the Annals of Gynæcology, for May, 1888. Boston. Dr. E. R. Peaslee told me sometime previous to his death that he did much of his best writing when doing a comparatively country practice, and jotted down his rough notes while riding from one patient to another.

I would that our medical colleges in the advances that they are making might do more in the teaching of specialties by appointing practical teachers, men who from hospital appointments have acquired by close study, rare opportunities for observation and faithful knowledge that should be given to the medical student. For the doing of much of this we should give all credit to our post graduate schools which in this country are giving forth such creditable work. It has been well said that the greatest advances in surgical science and art, at the present time, are made through special attention to certain lines of study and practice. As abdominal surgeons we should move carefully, but at the present time we must be active and on the alert to make use of the constantly increasing material that presents and from which to draw our practical deductions. Think of the improved change that has occurred in the practice of general surgery within a period of ten years. All things must be utilized by the abdominal surgeon. The greatest comfort and strength to be drawn from all this change is the tolerance by, and its acceptance on the part of older, staid and conservative members of the profession. They have learned to know that the improvements are real and accept them as such in true faith. There was a time when it would have been safer to ask these men to change their form of religious worship than to change, as they have, their method of surgical practice.

This country is rich in its strongly conservative yet strongly progressive men. The words of one, Dr. Fordyce Barker, I feel impelled to quote saying that "he learned only from the young men in the profession." The time has passed when prejudice can and is allowed to maintain and perpetuate error.

You will observe that my views are in favor of supporting abdominal surgery as a specialty, but it cannot be done alone, it must have the support of other specialties and of the profession at large. Pardon me for repeating my belief that in this new society we have formed a combination that illustrates well that trite but true saying that, in union there is strength.

I believe there is no country in the world where the obstetric art has progressed to a greater degree of perfection than in America. Those of us who have been in general surgical gynæcological practice for twenty-five or more years can attest how gradually have lessened the cases of vasico vaginal fistula and other forms of traumatisms to the female sexual organs during parturition. Much, very much, of this is the result of increased skill on the part of the obstetrican. Where is now the Vector? And would not those who once employed it so honestly, could they rise from their graves, laud and praise the improved obstetric forceps and its royal assistant chloroform? The work of the obstetrician is the most arduous, important and responsible of any part of our profession. To them is trusted the lives of our dearest ones, and yet how wearisome and anxious is the calling. He becomes perfect in all that pertains to his art, and particulary in any abnormal condition that presents, and yet in acquiring it in individual cases he is often too tired to go on with a major operation. Especially is this true as applied to obstetricians who practice in country towns, larger villages and smaller cities. The exacting nature of their work that admits of no postponement, the additional care of family practice that is forced upon them, these together with other professional exactions carry them into an atmosphere that is uncongenial to the technique and preparation necessary for abdominal section when the emergency of the lying-in room requires it. The abdominal surgeon finds comfort as his cases require it in the throwing off of his general surgical practice, and conversely I have seen good thorough obstetricians unwilling to enter the abdominal cavity because the case or cases they have just attended or were attending unfitted them for it.

There are many excellent, bold, grand and intelligent abdominal surgeons among our obstetricians in this country, and this is fortunate especially among those who live in large cities. Everywhere they are to be found, who are able to tell all about the measurements of the pelvis, and when a case can no longer be trusted to nature, in consequence of some malformation or abnormality present. And I believe I state the truth that the tendency in their practice is to lessen the number of craniotomies, and to resort to what seems to be a much more modern successful operation; that is abdominal section in some form whereby both mother and child may be saved, and the former at least kept from long, wearisome and fruitless suffering. I may be wrong, but I am convinced that the obstetrician and abdominal surgeon should work in perfect harmony, that the latter bears to the former much the same relation that the general surgeon does to the neurologist in his brain surgery. The obstetrician, like the neurologist, will make his diagnosis; but the surgeon will often be called upon to do the operation. I do not wish to be understood as refusing the right to obstetricians to operate, and especially does this latter remark apply to those who live in the larger medical centres.

The work of the abdominal surgeon will necessarily lead him into the field of gynæcological practice; that is, the major portion—not the minor part of gynæcology. The obligation is so great that he must prepare himself accordingly. There are many good gynæcologists who are successful in the treating of misplacements—in fact, in everything that pertains to their specialty, aside from doing abdominal section, and this they assign to some one else. Many of them are good operators in all that pertains to repair of organs external to the peritoneum. They treat all forms of pelvic inflammations, and yet are unwilling to incise tissues that may be said to be out of sight. There are a number of such gynæcologists, and they are to be found throughout the country and in cities also. The abdominal surgeon cannot do without them. They assist him in diagnosis, in consultation and in practice; and the public in the first wail of distress will insist that these two kinds of practitioners join hands in treating the dangerously sick one. The gynæcologist may be the very best of abdominal surgeons, and especially in the section of territory he may occupy, and yet for all abdominal work I think it is the exception. With pride one can look upon the work done by the gynæcologists of this country. It would hardly be proper for me in this brief paper to speak of individual members, dead or living. Neither they nor abdominal surgeons can do without each other's assistance. I believe it requires years of the hardest study and effort to become a thorough abdominal surgeon; the number must ever be somewhat limited. Those who come from the ranks of general surgery, early find it necessary to relinquish the rougher part of that practice, the performance of which in the years past has brought them the experience which is ever of service to his associate obstetrician and gynæcologist.

Finally, is it not a fact that there is some danger that abdominal section may be carried too far if made too much of a specialty? Have we not in this society the conservative combination? It has been proven in the past that the strictly obstetrical, and the strictly gynæcological society do not always command the indorsement of friends or the profession at large. That our new society is moving in the right direction, witness the Obstetrical and Gynæcological Society that has just been organized in Vienna, and of which Dr. Briesky has been elected president.

ARTICLE II.

IS THE FREQUENT USE OF FORCEPS ABUSIVE?*

A Paper by THOMAS OPIE, M.D., Professor of Obstetrics and Gynæcology. College of Physicians and Surgeons, Baltimore, Md.

There is a remarkable unanimity of opinion, in the teaching of recent text-books, medical journals and medical Societies on this subject. If we may estimate popular sentiment by this criterion, it favors the more frequent use of the forceps and condemns what is sneeringly called the "expectant" management of labor. So general is this opinion among writers and teachers in the obstetric field, that one, after a

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casual review of the question would be reluctant to oppose it, accepting that what everybody affirms must be true.

Impressed by the current opinion, I at one time advocated this practice. A careful analysis of my obstetric work and as far as I could get an insight, that of others, especially when viewed from the recent standpoint and clear light of gynæcology, has forced upon me a strong conviction, that the forceps is used too frequently and with more damaging results than has been supposed.

I feel quite certain all present will agree, that there is forceps abuse. I desire to give prominence to the subject. I do not mean to inveigh against the judicious use of the forceps, but to urge that there is harm done, both by the unskillful and the skillful, in their too frequent use. The axiom "Meddlesome Mid-wifery" once had a healthful and restraining influence, but it has lost its force from age and repetition, before the clamor for the forceps. We seem to be drifting away from the precept, "Aid and abet Nature," to the position of "ignorance and interfering with her processes."

The derivation of the word forceps conveys the idea of power, strength, seizure. The very name of this wonderful instrument therefore was suggested by its most striking characteristic, its prehensile power.

Nature, when at her relative norm in child-birth, provides a vital power precise in its amount and aim for the varying needs of the individual, which acts as a vis-a-tergo and unaided expels the child. At other times she seems greatly at fault, her powers are inefficient and the physician is called upon to supplement her deficiencies. Prior to the year 1700 the science of obstetrics was unborn. The only help for women in the perils of childbirth was that derived from ignorant mid-wives. At this time the obstetric forceps was given to the profession and to humanity. Men assumed charge of the instrument and the confinement of women.

Three distinct eras may be traced in this branch of medicine having their pivotal influence in the forceps. First: the introduction of the original forceps in 1700. Second: the important invention by Levret, of the pelvic curve, in 1747; and third: when in our own times, 1877, Tarnier invented the traction-rod attachments to the forceps.

This instrument has been the greatest blessing to mankind; the horrors and fatality of labor without it would have been incalculable. It has received from medical writers more titles of nobility, praise and endearment for its life-saving powers, than any instrument that was ever invented. It belongs, however, to the early history of the forceps, that its sovereign power was so much abused that the question as to whether it did most of good or harm, was stubbornly contested.

If one will revert to the rude state of the obstetric art, prior to the year 1791, when Baudelocque first arranged methodically the pelvic positions and presentations of the child, when the forceps was applied without established rules, he can readily appeciate that this was at least a debatable question. It can scarcely be said, that skill in the use of the forceps existed prior to the beginning of the present century. The application of the blades to the child's head was then a matter of haphazard and convenience. Even in the days of Rambotham, there was bitter controversy between the advocates of craniotomy and the long forceps. The majority of English practitioners preferred the former. In the light of history there must have been very great abuse of the powers of the forceps.

A recent writer says: "The forceps are simple in their construction, easy of application, wonderful in power." The successive stages of their development have on the contrary made them far less simple in their construction. They are therefore less easy of application. They have a wider range of use and wonderful powers for life-destroying, as well as life-saving.

The instruments for the destruction and mutilation of the child have been retreating further and further before the advancing and developing forceps. Podalic version has taken a back seat and emergencies demanding immediate delivery in behalf of both mother and child are promptly met. Truly there has been bestowed upon us in the forceps a great boon; we have been invested with great power, but there accompanies it great responsibility and dangers to both mother and child.

It is generally accepted that the higher the presenting part, the more difficult and dangerous the application of the forceps. It will go without contradiction that all surgical operations are dangerous, it is equally true that elements of danger lurk about all cases of artificial labor. To substitute traction for contraction, to introduce and use instruments in the genital tract, indeed to substitute art for nature's peculiar and inimitable methods, is always dangerous.

A formidable catalogue of injuries to both mother and child can be adduced in evidence of the rough and damaging work in obstetrics. The most unanswerable testimony comes from the gynæcologists.

Very few practitioners of medicine claim to be qualified for the practice of surgery, and delicate and dangerous operations are relegated to the specialists in this branch, but it is comparatively rare to find a physician who does not think himself competent to manage any forceps case which may present itself and who will not in view of the present fashion, resort to its powers. If skill in the use of forceps did not exist prior to the beginning of this century, how can we accord this virtue to operators in these days, who are ignorant of the fundamental principles and admirable system upon which the present science of obstetrics rests.

The opportunities of the student of obstetrics have been until recently almost entirely theoretical. The young graduate has no illustrative reminiscences, he is not as a rule entrusted with obstetric cases for years. As he grows older this work is intruded upon him and he must slowly, year by year, acquire his experience. Occasionally a young graduate is fortunate enough to obtain residence in a lying-in asylum, where he can secure practical lessons, when as yet his theory is fully at his command. Should he have no training in touch, and no fondness for the dry details of the mechanism of labor, it is no wonder as an advanced and busy practitioner, he so often makes a medium rate obstetrician; no wonder if he sneers at the mechanism of labor and refuses to be governed by rules in the application of forceps.

The province of obstetrics has been greatly improved by opening up the relatively new field of gynæcology. The good is not only manifest in sewing up its unsightly rents, but it is doing something to be grateful for, as a warning to obstetric operators. I have a recollection of a discussion which took place some time ago, in which a physician with a very large obstetric practice asserted, that in his extensive experience of over thirty years, he had never seen a case of ruptured perineum; being pressed in the debate he was compelled to admit that he had never looked for them.

To obtain the best success in forceps operations presupposes a thorough knowledge of the anatomy of the pelvis and the child's head, and the physiological and mechanical phenomena of labor. It is essential that the operator should have the ability to estimate the symptoms and indications of progress or delay in each case of labor that presents itself. He should be able, by a cultivated touch, to determine the relationship between the body propelled and the passageway at each step of its exit. He is called upon to determine the extent of physical depreciation or impending nerve exhaustion of his patient. He must know how to resist the importunate pleadings of a woman urging artificial help when nature needs no assistance. He must be ready to sacrifice self and time to the demands of the occasion, and allow nature to do her best before resorting to the forceps.

To determine between the high forceps operation and version; to decide upon the necessity for the high operation; to diagnose or rectify position above or at the brim; to apply the forceps accurately and conduct safely the little passenger through the genital passageway, requires exquisite skill; indeed, these are among the great achievements of medical science.

The high forceps operation is undoubtedly a critical one, and the operator should be selected with as much care as for an ovariotomy. The low operation is not so simple, especially in primiparæ, as to be left to "any tyro."

Much abuse in the application of the forceps grows out of a want of clear understanding as to the kind and gravity of the operation to be performed, the style of forceps indicated, and the rules to be observed by the operator. It will simplify and serve all practical purposes to designate the kind of forceps under three heads, according to seniority of invention, viz.: The straight (Chamberlyn), curved (Levret), and traction rod (Tarnier) forceps.

Let us be impressed with the individuality of the two operations. The high operation is associated with the first stage of labor; it is a high, difficult and perilous operation, only to be decided upon after the most solemn consideration of its responsibilities and dangers. The other is low, within easy reach and relatively easy of accomplishment; it is much the most frequently performed, and the province in which most abuse lies. In the first the accidents are more serious and often primarily fatal; in the second many minor injuries, sometimes grave secondary disability, and even death occurs.

The traction rod forceps alone should be used in high operations. It exerts traction in the right direction, requires the exercise of less force, and the mode of making traction through the transverse bar is much more convenient to the operator. There is less risk of slipping, and the head is comparatively free to obey the law of rotation when in transit; in fine, it is safer in high operations than any other forceps, both for mother and child.

The classic forceps should be used only in the low operation. It is very doubtful whether traction rods should ever be used at the inferior strait. The awkward and inefficient mode of making traction with any other forceps in high operations may well be styled abusive in the presence of the Tarnier instrument.

The straight forceps is worthy of mention only as a matter of history. If forcible rotation of the occiput or face from a posterior position is an allowable operation, it is claimed that we should have an instrument the blades of which could rotate on its own axis.

It is high time to turn a deaf ear to the many names of individuals attached to forceps because of various unimportant modifications of lock, handles or blades. They obscure the horizon of the subject; they stand in the light and distract attention from the main object, which, like that of practice of medicine in all its departments, is cure, life saving. Two kinds of forceps, two operations, and two distinct fields seem to simplify the situation.

The welding together and unification of the traction rod and pelvic curve forceps in Tarnier's latest style well-nigh disarms criticism. It is a great achievement, one on which we may congratulate this age. Think of the struggle and pity the sufferings of the man, woman and child as the operator toils away with the straight forceps at the inlet. The pelvic curve added would only qualify, and not remedy, the situation. Still another modification, and science has triumphed. The traction rods, with relative ease and far less force, pilot the head through the upper narrows and thence into the safer region of the low operation.

If we could only persuade operators of the salvation in traction rods at the superior strait; of the pelvic curve under all the conditions of traction; of making traction during the pains rhythmical, direct, slow; of supplementing, not superseding, nature; of the prime necessity of utilizing all the vis-a-tergo, and only just enough of his own power to bring the combined forces to the norm, and that all above that should be reckoned as abuse; if we could only get him to be careful, to halt, prospect and protect the sphincters of the uterus and the vagina, and to beware of rapidly unloading the organ, we would have a reform which would be as life-saving stations all along the passageway.

The function of the forceps known as double leverage, the principle of which is so familiar to the carpenter, is of doubtful value to the obstetrician. Compression is a legitimate function of the forceps only in seizing the presenting part for the promotion of traction.

The chief function of the forceps is traction, and all other uses are subsidiary and relatively unimportant.

Mechanical tractors are objectionable on account of their constant, instead of rhythmical, action. They cannot be made subservient to rotation. The dynamometer has thus far failed as a practical aid. Tarnier believes that in the future all objections against mechanical traction will be overcome. Delore gives the opinion that a man, bracing himself, can exert a force estimated at 88 lbs.; with support, 176 lbs.

A case has come under my observation which is unique, in which three physicians, pulling together, exerted their whole power with support. The case was one of contracted pelvis. No. 1 doctor met with difficulty, and called in consultation No. 2; the forceps did not remedy the situation, and they sent for No. 3. On his arrival a rope was wrapped tightly round the handles of the forceps, and the patient pinioned around the armpits by two non-professional assistants. The three doctors took position in line, one behind the other, and, supporting themselves, threw their combined weight and strength upon the traction rope. The resistance was overcome, the woman was delivered, and the pelvis was fractured. Both the woman and her child were killed.

Physician No. 3 narrated this case before a medical society to which he belongs not long since, and it stands on record in the minutes of the society meeting as a "most difficult case of labor."

I am fully convinced of the ability of the forceps to help. I protest that they should not be used regardless of the factors of delay. I plead for their judicious use. The indications for forceps use in the first stage of labor are very rare. In certain emergencies delivery by forceps or version is imperative, and we are compelled to operate despite dangers. Among the guides generally laid down is, that the os must be dilated or dilatable. Judgment often goes to protest on this point. The only time to make this test is by touch when the uterus is contracting.

About two years ago I was in attendance upon a most tedious, nervous and impatient primipara; the os was only three-fourths dilated after a boisterous struggle of two nights and two days. Slowly, almost imperceptibly, the dilation increased. The patient's qualifications for abuse, however, grew more rapidly, and I came in for a large share of it. She demanded chloroform and instrumental aid, and the husband seconded her claim. The traction rod forceps were applied, and she was delivered in two hours under chloroform; a febrile trouble and tardy convalescence ensued. Some months afterwards she became the patient of a clever gynæcologist; his operation told the tale of the "blundering obstetrician." I have never had an opportunity since to call the patient to an account.

In this, as in all cases where artificial dilatation is required, I pursue the following plan: I dilate the os with Molesworth's or Barnes' dilators, so as to get two fingers into the cervix, and then introduce Taylor's narrow blade forceps. The head is drawn into the os at each pain, to overcome any possible resistance at the internal or external os. This plan will greatly reduce the risks of cervical laceration and limit the force required.

To be thoroughly satisfied of the dilatability of the sphinctorial fibres after the application of the Tarnier forceps, introduce the left hand up to the blades and test the degree of strain on the cervix, while the right hand makes tentative traction.

I cannot forego the opportunity at this juncture to quote Dr. Charpentier, where he says, "If nothing urgent calls for the termination of labor, we ought to wait as long as the state of the mother and child will allow. This is an absolute rule, unfortunately for the mother and the fœtus, too often infringed. One of the qualities we medical men should possess is the ability to resist the entreaties of friends and the patient particularly a primipara, to know how *to wait and do nothing*."

Far the most frequent use of forceps is in the expulsive stage. We are told "any tyro" can perform the operation. Nature generally can do it safer and better, if not so quickly. Time and patience cannot be too much extolled as virtues during the whole of labor. Let the attendant occupy the position of "watchful expectancy."

Remove reflex disturbances, sustain by proper food, guard against fatigue, secure rest, assure and cheer, utilize the simpler methods of assistance, let nature do all she can before we resort to forcible measures. I have had occasion to limit the frequency of my forceps application lately by the plan of manual pressure. This ancient practice was revived by Ritgen of Giessen, whose article was entitled "Delivery by pressure instead of Traction." He answered the question "Why do we always drag and never push out the fœtus?" He said: "Nature exerts her powers by expression," a vis-a-tergo, while that employed in forceps deliveries is a vis-a-fronte.

Kristeller, of Berlin, in 1867, brought before the profession a series of cases in which he used systematic rythmical pressure on the fundus of the uterus to effect delivery.

He claimed the following advantages: 1st. It shortens the duration of labor. 2nd. The normal position of the child is preserved. 3d. The application of the forceps is frequently rendered unnecessary. 4th. It thereby aids in protecting the perineum. 5th. It facilitates and hastens the nevertheless often necessary forceps delivery. 6th. It prevents the upward extension of the arms in breech deliveries. 7th. It hastens the expulsion of the shoulders after the birth of the head.

It has been said the results are more favorable than in forceps cases, that there is less local inflammatory trouble and less septicæmia.

These and other manual helps are in accord with nature's methods, and should be utilized to limit the forcible ones.

It has been advised that forceps should be used on the indication "to curtail the pains of labor." This suggestion without qualification leads directly to abuse and danger. Spiegelberg puts the case strongly when he says: "He who undertakes to perform the operation on this ground, must understand how to use his hands intellectually and mechanically." We have most efficient agents for the control of pain in morphia, chloroform and chloral, and it is doubtful whether as an isolated indication, pain ever warrants the use of forceps; nor would such cases necessarily end with less suffering after immediate delivery.

It is a common occurrence on the part of women to demand that the accoucheur shall do something to help the physiological processes of childbirth. This question when presented before the British Medical Association had its advocates, but Dr. Robert Barnes spoke of it as an old and bad practice. Spiegelberg emphasizes the dangers of septic results in these as in other excessive manipulations in slow labor.

The demand for instrumental help is made by the suffering woman just as it is for anæsthesia for the suspension of pain; not because she in our day differs in a material way from those who lived before these agents were discovered; she is not less heroic and brave now, but she sees no reason why she should suffer in the presence of efficient modes of relief. We must deny however that anæsthesia stands on the same footing with instrumental delivery. By anæsthesia we mitigate pain and other abnormal symptoms and may make the labor more natural. We are justified in the use of forceps only when Nature is inadequate for her work.

In cases of excessive nervousness and emotionalism in labor, it is said by high authority that the best treatment is anæsthesia followed by the forceps. I would assent in these cases to the anæsthetic influence during the pains, because it will generally make the labor more normal. The nervous element, especially in the first stage of labor is very misleading. It is not always the patient who is most noisy who suffers most, nor is it safe for the accoucheur to be influenced by her impatient demands for more chloroform or instrumental help.

Inertia, rigid os, tough membranes, cicatrical tissue, obliquities of the uterus, common causes of delay, cannot be treated by forceps without extraordinary risk, especially when occurring in primiparæ.

The loss of time in labor cases should not be accepted as a justification on the part of an accoucheur for resorting to instrumental delivery. We believe in these times of go-ahead-a-tiveness, this is a common source of abuse. The forceps is or ought to be a life-saving instrument both for the mother and child, it matters not whether we are dealing with the first or second stage of labor, and we can sum up the indications for their use as being "all conditions in which one or the other is in danger."

Much the largest proportion of forceps applications are in the second stage of labor, and well for the mother and child it is so, since nature has already accomplished most of the work. The danger of traction here is attended with more injury however, than is admitted or ever known. The whole question of frequent forceps use has been dictated by statistics gathered from lying-in asylums, where the conditions do not furnish a fair comparison with the surroundings of private practice. The patients belong to a different class; they are subject to the will of the operator in a more absolute way. The master of a large lying-in asylum is a specialist, indeed an expert; he has that familiarity with the instrument he is using and that manual skill from the practice and study of the mechanism of labor, which the private practitioner does not have and can never hope to attain. He works on a different plane. Art can and may justifiably be invoked oftener in asylum cases than there is a necessity for in private practice, and even there the mortality from sepsis is more than likely increased by forceps use.

Let this be emphasized; it is not only fœtal and maternal mortality that is involved in these artificial deliveries, but the mutilation, the life long injury, it may be subsequent barrenness.

The rule in Nature's plan is, that she is slow; if precipitate, there is more than ordinary danger. To do in twenty or thirty minutes, what Nature would ordinarily accomplish in from four to six hours, is not warranted by pain, emotionalism or any other indication, unless it be a clear demand to act in view of jeopardy of mother or child. When we consider the gradual moulding and adaptation of the presenting part to the peculiar formation of the pelvic canal and the other active preparations going on during labor, for the crowning dilatation it seems reasonable to stand by Nature and give her time. Do we not underestimate her ingenuity and power?

There is much difficulty in obtaining exact statistics as to the frequency with which the forceps is used. The figures vary with the country and with the operator.

Charpentier gives Ploss' tables for German, Russian and Swiss maternities, embracing the results in the experience of eighty-three operators. In an aggregate of 333,054 labors the forceps was applied 10,975 times, an average of 1 in 30. The minimum proportion of applications made by any of the operators was 1 in 291 labors, by Osiander of Gottengen, and the maximum 1 in 3 labors by Hohl of Halle.

Ploss' tables for the application of forceps in England gives for the operator who makes the least exhibit, 1 in 3,878 labors. The operator with the greatest relative number shows a proportion of 1 in 7.8.

Jacquemier's tables for Madam Boivin show 20,517 labors and 96 forceps cases, or 1 in 214. Madam La Chapelle, 22,517 labors and 26 forceps cases, or 1 in 827. Clarke, of Dublin, 10,199 labors and 14 applications, or 1 in 728. Ramsbotham, 26,676 labors and 34 applications, or 1 in 785. Siebold (Berlin), 2,093 labors and 300 applications, or 1 in 7.

These statistics embrace a period from 1792 to 1862. Those were the days of the swaddling infancy of obstetric knowledge, when method was just inaugurated by Baudelocque. During most of the time involved even the pelvic curve was unknown.

Still they are useful in the light of history, in setting forth the wide range of opinion as to the frequent use of the forceps in those days. They seem to point, then as now, to " rash officiousness on the one side" and "irresolute passiveness" on the other. They are conclusive, that the latter partisans prevailed, that the forceps were used far less frequently in those days than in these.

Galabin says, some authorities in urging the frequent use of the forceps, have based their recommendation upon the very large saving of fœtal life said to be attained thereby. He says it does not appear that there are any trustworthy statistics, proving that any such large saving can be attained. He compares the statistics of two lying-in charities, Guy's and St. Thomas' Hospitals. For 12 years (1863 to 1875), in Guy's the forceps rate was 1 in 200 deliveries, the still births 2.7 per cent. In St. Thomas' in 1874, the forceps rate was 1 in 18, still births 2.8 per cent. In 1875 the forceps rate was 1 in 16, still births 2.8 per cent. In the above ratios of still births premature and macerated children are included. It therefore appears that no one would probably now recommend for private practice, so sparingly, a use of forceps as only 1 case in 200, yet with this a slightly better ratio of still births was attained than that in St. Thomas' with a use of forceps

10 or 12 times as frequent. Not a single mother died after forceps in these years at St. Thomas' Charity. Galabin gives the forceps rate at Rotunda Hospital from 1847 to 1875 as 16.5 per 1000, and the maternal mortality as 13 to 1000. From 1871 to 1875, forceps rate as 96.4 per 1000 and mortality 22 per 1000. The latter high mortality was mainly due he says to puerperal septicæmia and cannot fairly be taken as telling conclusively against the frequent use of forceps.

In St. Thomas' Charity in 1874 with a forceps rate of 54.2 per 1000 the mortality was 7.4 per 1000, in 1875 with forceps rate 61.8 per 1000 the mortality was 3.4 per 1000 giving mean mortality for the two years of 5.4 per 1000. He concludes that no positive general rules can be laid down as to the frequency with which it is desirable to use forceps, but that the statistics of the St. Thomas' Charity appear to show that a forceps rate of 1 in 16 or 1 in 18 deliveries does not endanger the mothers, but wider statistics on this point are desired.

The injuries to the mother and to the child consequent upon the use ot the forceps are manifest, though they are minimized by the expertness of the operator.

It must be insisted however that the experts in the use of forceps are as rare as those in the use of the knife.

It is to be deprecated that there is not a greater tendency to specialism in obstetrics. No man ignorant of the mechanism of labor and of the classical rules for using the forceps, should ever undertake a high operation. That clumsy, untutored and unskilled hands do harm with forceps, even at the lower strait, cannot be denied. As long as this want of training and fitness for obstetric operations exist, it will be humane to withold our advocacy of a still more frequent use of forceps. We will ever be averse to substituting art for nature, as long as man is inferior to his Maker, except we act because of jeopardy of mother or child. What is beyond this is foreign to the purpose of cure. I am sometimes reminded, when I see Nature ignored, of the impudent egotist, who said, if he had been present at the creation of the universe, he could have made to the Creator some very valuable suggestions.

There are many accidents and injuries which may befall the mother and child, at the hands of the forceps. They range from the simplest to the gravest physical injuries. To these a dreary list of secondary troubles may be added embracing mental alienations, unfruitfulness and marital infelicity.

I desist from enumeration, as I have already extended this paper beyond what I intended at the onset and because I feel certain you have been impressed by the literature of the subject, as contained in the many admirable works on gynæcology.

It may be argued that I should have chosen the popular theme of "forceps use" and said something to inspire a higher qualification for the more frequent use of forceps. It is not best always for all to agree. Let us hope that out of our honest differences truth and cure may come.

My personal experience in private practice has been until recently on the side of frequent applications. It shows an average in the last ten years of 1 in 10.5 labors. From the inauguration of the Maryland Maternity Hospital in 1874 to 1888 inclusive, there have been 1,495 deliveries. We applied the forceps in 142 cases or 9.4 per cent. Only two deaths ever followed forceps use, and one of those died from septicæmia. Twelve cases of sepsis, however, followed forceps applications. In six of these cases, the forceps was the starting point of an outbreak of sepsis in the hospital.

The forceps has been applied but twice in the last 100 cases in the above-named institution. No case of sepsis has occurred and but one death. This was one of the two fatal cases after forceps I have referred to and in which death was caused by traumatic peritonitis.

The number of forceps applications reported by the Philadelphia Maternity Hospital in 1886 was 1 in 8.

The average at the Columbia Hospital, Washington, D. C., for a number of years past has not exceeded 1 in 20 labors. I am sure I have used forceps too often. I know of some harm I have done, though I am confident, I have done much good with them.

I believe in the absence of reliable statistics, 1 in 15 to 1 in 20 labors is about as often as forceps need be used, though I know a number of obstetricians who exceed my rate. I am informed that in the Vienna Lying-in Asylum the ratio of applications to deliveries in the past year was only 2 per cent.

I will feel repaid for my effort in writing this article if I can succeed in drawing out such a discussion and comparison of experience, as will give more light on this question; if only some one hearer will be inspired to gather up recent and reliable statistics not only from asylums, but what is far better, an aggregate of the experiences of the private practitioner.

I am strongly convinced that the pendulum, having left the position of infrequency, is swinging too far in the other direction.

The obstetrician would do well, to be found in the good company of the physician in the prevention of disease—the surgeon in his conservatism and in line with the modern sanitarian.

PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION,

October 2, 1888.

QUESTIONS CONCERNING DIPHTHERIA.

The regular scientific business of this meeting included two papers on Diphtheria, one by Dr. Avery Segur, based on a series of thirteen questions, formulated by the author of the paper, and another by Dr. J. D. Rushmore, on the utility of surgical procedures in that disease. These papers, which appear in this issue of the JOURNAL, opened the discussion of this subject, which, by vote of the Association, will be continued at the November meeting.

Before the reading of the above papers, the President, Dr. E. R. Squibb, related the history of a case of persistent fœtal condition, marked by cyanosis, and believed to be due to a patulous foramen ovale. Oxygen was tried, and also the cabinet-treatment, but while the blueness fluctuated somewhat, the child grew worse. Death took place at the end of six weeks, when the post-mortem inspection revealed complete patency of the ductus arteriosus, a condition not suspected, and sufficiently rare to make it a proper subject for mention to the Association. A detailed account of the case will be prepared for publication by the attending physician.

DIPHTHERIA: Discussion opened by AVERY SEGUR, M.D.

Diphtheria has a record of deaths in Brooklyn since 1859. Its record during the eight years, 1874–81, inclusive shows an epidemic prevalence.

The deaths, last quarter of 1887 were 366.
First " " 1888 " 324
Second " " " " 259
Third " " " " 147

A mortality for twelve months of - 1096

or twice as great as during several preceding years, and of epidemical proportions. The eight continuous years of a large death rate from diphtheria before, must, in the present epidemic make us apprehensive of the coming winter and the future.

Now that our attention is so much occupied with this disease a discussion of it should be timely, fresh, and productive of much mutual interest and benefit.

As practitioners our study of the disease is chiefly from the clinical point of view. Our first concern is to save life, by a successful treatment of our cases; we are also concerned to save life by carrying on in dwellings such measures of protection as the presence of a communicable disease demands. Indeed, this is a first duty and if fully discharged by every attending physician, with the efficient co-operation of the household, it would be the saving not only of one family but of all other families.

Here duty is very difficult, and one reason is that while diphtheria is known to be contagious and infectious there is the greatest uncertainty and irregularity in its propagation. Added to that is an uncertainty of diagnosis.

Diphtheria with membrane we have long known, but it is now claimed that there are very many cases of simple sore throat and tonsilitis which were communicated by, and will in turn communicate diphtheria—in effect are cases of diphtheria, very mild and without membrane. I think our discussion of this question should be very thorough.

New remedies are proposed in the treatment of diphtheria and many cures claimed for each and every one. We hear of the supporting plan, the antiseptic and the bacillicide. Then there is the value of local treatment to be appraised.

Again in our relation as a profession to the public, its mind is sensitive through suffering and will hear what we have to say about sanitary laws. A righteous indignation should be excited and always ready to visit those who in public service disregard the plain requirements of public safety.

The questions we are daily asking or considering may be formulated as follows, to wit:

DIAGNOSTIC:

1. Are there cases of diphtheria having the characteristic local condition without severe constitutional symptoms, which recover without drug treatment?

2. Are there cases of diphtheria which run their courses without attracting attention to the throat, or present no membrane if the throat be examined?

3. Is it probable that many cases of diphtheria are so mild as to entirely escape recognition, or not to go to bed?

4. Are there more very mild cases now than were observed in the earlier histories of diphtheria, or does a more critical diagnosis now include cases formerly considered as tonsilitis, simple sore throat, etc.?

THERAPEUTICAL:

5. *a.* Do an increasing proportion of cases recover? *b.* If so, is the result due to better treatment?

6. Does treatment directed to any supposed cause of diphtheria, as microbes, give better or as good results as treatment to "obviate the tendency to death," and are there important remedies other than supporting?

7. What is the evidence that very large quantities (one or two pints a day) of brandy or whiskey are necessary in severe cases, and what is the limit of alcoholic tolerance?

8. If corrosive sublimate be used, what is the evidence:

a. Of bacillicide influence?

b. Of sufficient dosage?

c. Of timely warning of toxic effect?

9. What is the value of tincture of chloride of iron; of chlorate of potassium; of surgical interference?

PREVENTIVE:

10. What are the important measures of prevention:

a. In the family?

b. In the neighborhood?

c. In the town or city?

d. In schools?

e. How long should children who have escaped in infected houses be excluded from schools?

f. How long should convalescent children be excluded from schools?

11. What is the relative value of isolation:

a. Of the person?

b. Of immediate destruction of fomites?

12. What would be the result upon diphtheria in Brooklyn if all the house drains and public sewers were kept pure in the sense of cleanliness, or if organic processes and products in their walls and contents were chemically destroyed?

13. Is there more hope of saving life by practicable but now unused means of prevention than by any present or probable means of remedial treatment?

Can practitioners dispense with a theory of diphtheria? Would clinical observation, into which etiology and pathology had never entered, give better answers to the foregoing questions than we, who are under their influence, can hope to give?

Let us try for a few minutes to closely analyze the light, etiological and pathological, in which we have been accustomed to see the appearances and phenomena we are questioning.

To begin, here is a definition of diphtheria which many of us have received from Reynolds' "System of Medicine":

"An acute specific disease, both epidemic and contagious, characterized by a special inflammation of the mucous membrane, chiefly of the pharynx and first air passages, attended with enlargement of the lymphatic glands, a rapid exudation of fibrine or non-organizable lymph, and its deposit within and upon the surfaces affected. Other parts of the mucous membrane and the skin sometimes suffer at the same time, and changes often take place simultaneously in the spleen or kidneys, albuminaria frequently occurring at an early period. The disease is accompanied by great prostration of the vital powers, and is followed by a remarkable series of local lesions of innervation. The tendency to death is by asthenia, either coincident with the disease or gradually induced, or by apnœa from implication of the air passages, which may happen as early as the second day, or as late as the second week of the disease."

This definition presents an *inflammatory process* in 1, mucous membranes; 2, lymphatic glands; 3, spleen; 4, kidneys; 5, nervous system—all prominently involved in the disease; and an accompanying prostration. The relations and dependencies intended or implied in the definition are illustrated by the following quoted expressions under the heading of Pathology: "The general disease and the local lesions that arise during its continuance have an inter-dependence and mutual reaction." Again: "The general disease impresses a special character, not only upon the local lesions which it occasions, but upon any concomitant morbid action." Again: "Parts where the specialty of the disease is most marked" (air passages) "and where it sometimes expends its whole violence." Again: "The evidence of the general disease next in importance is the existence of albumen in the urine." Again and last: "It would seem that the first influence of the disease, as well as its later effects, are exerted upon the nervous system."

This last statement is in connection with a discussion of the nature, extent and effect of the blood-changes.

This definition of diphtheria may be compared with the definition of scarlet fever given in the same "System of Medicine." I quote "An acute pyretic disease, specific in its cause and course, and producing in its course an exanthem with characters quite peculiar," etc. Under Pathology it is written: "The contagious principle contaminates the system by means of the blood; in some cases the infected person feels poorly for several days before the occurrence of symptoms so decided as to mark what is called the onset of the disease; the invasion symptoms are often peculiarly sudden in appearance, and are in a majority of cases to be referred to a special organ of the body, the stomach, or the throat, or the nervous system," etc.

The idea of INFLAMMATION, so prominent in the definition of diphtheria, is not here; but the "exanthem" "with characters quite peculiar" of scarlet fever, and the characterizing "specific inflammation of mucous membrane" with its exudation and deposit, the membrane of diphtheria, are both regarded as products in course of general diseases. Accordingly—and this is a further clearing of the point of view of the two writers—the editor classes both diseases under "General Diseases; or affections of the whole System."

This teaching, in 1868, of a standard English authority, agrees with the views attributed to Buhl by the writer of the article on diphtheria in Ziemssen's Cyclopædia of the Practice of Medicine. I quote: "Buhl taught that diphtheria was a general infectious disease, entirely independent of any previously existing local disease." "The disease in the throat and air-passages would be, according to this view, not an originally localized affection, but only the indication of a general infection, which manifests itself by preference upon the tonsils, in the pharynx, larynx, etc., as scarlatina does upon the skin."

The writer of the article, Oertel, sets against this teaching, his original discovery of the bacteria, to which he gave the name of micrococci, in diphtheritic membranes, and says: "I believe that I have furnished, by a series of experiments, the proof that diphtheria begins as a local disease, and develops afterwards into a general one; and that, moreover, the general infection is kept up by the local one. The disease establishes itself at first in one spot—the focus of infection—and thence radiates, as it were, through the body, until, by general blood-poisoning it renders the organism incapable of life." And he introduces his affirmative argument in support of this belief by the following statement of the question: "The question to decide, therefore, is whether diphtheria is at first a general disease and poisoning of the blood, and the affections of the mucous membrane are merely secondary localizations, or, whether it begins by infection, as a local disease, and at an indefinite time becomes general."

Oertel has stated how *it* begins in his belief—he further states that the "it" is INFLAMMATION. "The *local disease* makes its appearance as an inflammatory process upon certain mucous membranes," etc.

The translation of Ziemssen was published in this country in 1874. The micrococci were looked for, were readily found and, I suppose, gained for the conclusions of Oertel, general acceptance and lasting influence.

A new and most important standpoint is the work of Oertel, published last year—"The Pathogenesis of Epidemic Diphtheria founded upon its Histology"—of which an abstract is published in *London Lancet,* four numbers—February 25th, March 3d, 17th, 31st.

Its effect on my mind has been to change my thinking about diphtheria so far as diagnosis is concerned.

The histological examinations included tissues and organs as follows: 1. Epiglottis. 2. Tonsils. 3. Pharyngeal mucosa and uvula. 4. Lungs. 5. Lymphatic glands. 6. Heart. 7. Stomach and intestines. 8. Spleen. 9. Liver. 10. Kidneys.

It is shown that the essential and characteristic lesions are those of cell change, producing necrobiotic areas in the epithelium of the respiratory mucous membrane; in the substance of that membrane itself; in the tonsils; in the mucous membrane of the fauces, uvula, epiglottis, larynx and trachea; in the cervical, submaxillary and bronchial glands; in the follicular and agminate glands of the intestine; in the mesenteric glands and spleen. Diphtheria is a disease in which infection acts upon cells, changing their physiological action and causing their death. This is NECROSIS, not at first of visible areas of tissue, but of cells; as the process extends and goes on, the products of necrosis are mingled with the products of inflammation. Inflammation also produces necrosis; and it is the question of precedence that divides Oertel and Ziegler, who says, "In this form (inflammatory coagulative necrosis, or *diphtheritic inflammation*) the tissue which has been killed by the injury causing inflammation, or by the inflammation itself, coagulates into large flakes and reticulated masses."

The prominence which Oertel gives to necrosis is shown in the following from the abstract of his work published in the *Lancet*:

"He shows that, whereas it had come to be considered that the false membrane was of inflammatory origin, due, it was supposed, to a specific irritant, yet Heubner's researches pointed to some necessary antecedent condition of the circulation in the affected mucous membrane, so that the formation of false membrane might conceivably be secondary to general infection of the system. Now, according to the present researches of Oertal, the false membrane is to be regarded as part and parcel of the necrobiotic process that occurs in many organs, in the depth of the pharyngeal and tonsilar tissues, in lymphatic glands, etc. ; and the differentiation of a 'membrane' to be due to the accident of position—viz., on the free surface of a mucous membrane. He shows clearly that in its earlier stages the epithelial and leucocytal elements disintegrate to form the substratum of the false membrane, just as like cell disintegration produces the deeper seated 'necrobiotic foci.' Indeed, for the most part, the false membrane is due to the extension of such foci formed beneath the epithelial layer."

In the vessels, lungs, liver and heart, the changes (according to Oertel) are those due to an infective inflammation.

In such a body of perverted nutrition our diagnosis should study the WHOLE, *not single features.*

The definition of diphtheria is still *sub judice.*

That being so, I wish to point out that we may well undertake to answer the questions on the paper quite independently of definitions. It may be urged indeed that at the bedside, in every case of diphtheria, there should be independent and critical observation both as to diagnosis and treatment.

That is clinical experience ; and until the laboratories of the bacteriologists and histologists are agreed upon a definition of diphtheria, such experience must be our best guide.

To that, these questions are intended to make appeal, and it is earnestly hoped many and valuable contributions will be made, that diagnosis may be less misleading, treatment less misdirected, and prevention less uncertain, inadequate and belated.

If it be recognized, accepted and taught that diphtheria is a general disease, affecting many parts and organs, then it will fall in with our habit in other general diseases, as in scarlet fever and typhoid fever, to study symptoms comprehensively, and to *weigh* the negative evidence, the absence of lesions usually prominent. Oertel's description is very suggestive to clinicians :

"The general affection has the character of an infectious disease, and holds a position somewhere between simple excitement of the circulatory system and the severest forms of typhoid fever and pyæmic poisoning."

The latest and most important conclusion of the laboratory study of diphtheria—to wit, that the disease must be studied as a whole, and not merely in one of its local manifestations—may well be the rule of our clinical work.

The first question,

1. Are there cases of diphtheria having the characteristic local con-

dition without severe constitutional symptoms, which recover without requiring drug treatment? describes a certain proportion of the cases observed by many of us which contribute to the wonderful cures claimed for each latest new remedy; they also help to make judgment difficult for physicians who patiently and closely study the effects of the remedies they administer. Perhaps there may be a sufficient proportion of such cases, with a tendency to recovery, to account for the reported results of hœmeopathic treatment, showing the usual average proportion of deaths to cases. Again, it is this class of cases that gives color to the theory of the primary local character of diphtheria; it is easy to think that in such cases the infection has not been absorbed into the system, perhaps prevented by the local treatment employed, and so a merely local trouble in a part not vital has a favorable termination.

But, later on, the occurrence of a diphtheritic paralysis will revise and correct a premature impression.

But for the purpose I chiefly hold in my part of our evening's work I would turn the light of these cases on questions 2 and 3.

2. Are there cases of diphtheria which run their courses without attracting attention to the throat, or present no membrane if the throat be examined?

3. Is it probable that many cases of diphtheria are so mild as to entirely escape recognition—or not to go to bed?

If some constitutions do so resist the invasion of this infection and so limit its malignant influences, (as in the mild cases recognized as diphtheria), why is it not probable that there is in nature a diminishing susceptibility up to that of individuals who, after every possible exposure and contact, as we so often see in the utter abandonment of parental devotion, show, by what we call a sympathetic sore throat that the infection has indeed tried, but tried in vain to gain admittance.

True, this is in adults, but herein lies the essence of the probability that I am contending for. An infection, like small-pox, to which all ages and all individuals are equally susceptible, has no diminishing passage and vanishing point of mildness—but diphtheria, like scarlet fever which it, in more ways than one, is so near to, and to which it may be so instructively compared in our thinking of it, respects times, seasons, ages, and individuals in a remarkably confusing way, and I think, alike, the two diseases present examples without either the usual local or general symptoms, and which pass without observation unless or until a case follows immediately in the same family, or one of the recognized sequellæ occurs.*

I would keep these questions before us, to be tested by experience, and I attach the greatest interest to the answers our members will give

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* After this went to press I met Dr. J. C. Shaw, ex-President of the Neurological Society, who, as a consultant in Neurology, would see much of the paralysis following diphtheria, in Brooklyn, and asked him if there were many cases in the epidemic of the past year. Dr. Shaw thought not, but mentioned two cases of diphtheritic paralysis in which he had been consulted within the past two years.

A girl, six years old, had a sore throat which gave no evidence of diphtheria during the on this occasion, because of their bearing on the continuance and prevalence of diphtheria in Brooklyn, and consequently on the efficiency of any efforts for prevention which we may be moved to undertake.

Appealing to our clinical experience, if some or many of us have had reason to view cases in which no false membrane has appeared, as cases of diphtheria, nevertheless, because of prostration, persistence and sequellæ—these facts and opinions need to be all brought out in this discussion, not only in the interests of science, but of practice, and particularly of that most important public interest, the control of contagion and infection.

As my individual experience, I would say that I am convinced that a very large number of cases of diphtheria run their course without membrane, and that I have seen among the different children in a family all seized with diphtheria some with fatal illness, and others at no time confined to bed. If these ambulant cases were not under watch and guard because of the others, how easily they would pass unrecognized, and how unrestricted their communications with an unsuspecting school and neighborhood.

As this is an experience meeting, I do not like to set the example of introducing authorities; but if I set them in opposition to each other, perhaps they may not discourage our freedom of expression, and may serve the purpose I wish, to wit, emphasize the point. Practitioners who have been readers of Reynolds' System, of Niemeyer, of Vogel, of Meigs & Pepper, have been led, I think, to dismiss suspicion even of diphtheria, in any case where they do not find membrane. And this in spite of the fact that a careful reading of some of these teachers finds the admission that membrane is not essential to the disease.

On the other hand, Oertel in Ziemssen describes formally catarrhal diphtheria without membrane.

Jacobi, 1880, states that "three forms of diphtheria are found in the fauces: the 'croupous,' the 'diphtheritic,' and the 'necrotic.'" In the last form are the "cases in which no actual membranous formation occurs."

A far more inclusive and well-defined view and teaching is the result of Jacobi's progress in the last eight years, for he now says: "What has been called folicular amygdalitis (or 'tonsilitis') is diphtheria in many, perhaps most, instances." "This mild variety is that form which adults are apt to suffer. It made me proclaim the warning that there was as much diphtheria out of doors as there was in doors; as much out of bed as in bed."

Woods' Reference Handbook of the Medical Sciences—article,

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attack, and did not confine to bed. In a month she had a paralysis which Dr. Shaw pronounced a sequel to diphtheria.

A boy, four years old, had a sore throat, following a similar attack in an adult member of his family, both affording no evidence at the time of diphtheria, and regarded as "simple sore throats." Neither kept their beds. A month later Dr. Shaw saw the boy with diphtheritic paralysis.

The attending physicians were among the most competent to make correct diagnoses.

Diphtheria, describing the general symptoms says: "The symptoms may vary from those of the slightest sore throat to those of the most serious and malignant disease. For convenience these may be separated into several forms, according to the severity of the symptoms. These are: I. The typical form. II. The catarrhal or mild form. III. The malignant form. IV. (*rare*). The chronic form."

The mild form is thus described: "II. *The Mild Form.*—In such a case the symptoms are often so slight that the diagnosis must be exceedingly doubtful; they are those of an ordinary catarrhal sore throat.

"The constitutional disturbance is very slight, the elevation in temperature being but one or two degrees, the pulse being but little affected. There may be slight pain and dryness of the throat, and some difficulty in deglutition. The submaxillary glands may be swollen and tender; the tonsils, soft palate, and pharynx red and swollen; and, in a day or two, minute yellowish spots the size of a pin's head, make their appearance; these are easily removable. The symptoms improve on the third or fourth day, and often the presence of persistent and general weakness is the only definite sign that the case has been one of diphtheria."

4. Are there more very mild cases now than were observed in the earlier histories of diphtheria—or does a more critical diagnosis now include cases formerly considered as tonsilitis, simple sore throat, etc.?

This question has been already answered in part. The law of epidemics, I believe, is—certainly many examples occur to my mind—that the first access of a disease entirely new to a community, is marked by malignance; often, nearly all attacked die. Repeatedly in the progress of the great plagues of the middle ages one fourth part of the population died. The early writers on diphtheria record epidemics in which all died who were attacked.

The Massachusetts State Board of Health record visitations of towns in which the mortality was eighty per centum. Other towns in the same State had as low a rate of mortality as eight in one hundred.

In the first three months of 1888, in the First and Seventh wards, the Heights, and a portion of the Hill districts, seventy-five cases and thirty-one deaths are recorded, a rate of forty-one + per centum; in the intervening Fourth ward, same period, thirteen cases and two deaths, a rate of only 15 + per centum. In the first, one death to every two and four-tenths cases; the second, one death to six and six-tenths cases.

Whatever the explanation of these figures may be, they may serve to point to very great differences in the severity of diphtheria in our midst, and that very mild cases are to be looked for. And this leads directly to the anxious and responsible question of diagnosis in individual cases.

I think our first care must be to get the right standpoint. I would say that we must think of diphtheria, as we do of scarlet fever, and typhoid fever, all general diseases, with a symptomatology varying from a typical form, to most obscure and indefinite ones; in all alike after study and watch of the prodromata, the access, the development, course, and progress, we must many times weigh the elements of exposure, environment, predisposing disease, etc., and sometimes wait for sequellæ to clear away our doubts.

It would appear that tonsilitis in a proportion of cases is now clearly recognized as a form of diphtheria and that being admitted we may say that the name-word *diphtheria* (διφθερα, a skin), suggesting false membrane, must not confine our attention to the throat any more than *scarlatina* to the skin.

5. *a.* Do an increasing number of cases of diphtheria recover?
b. If so, is the result due to better treatment?

6. Does treatment directed to any supposed cause of diphtheria, as microbes—give better, or as good results as treatment to "obviate the tendency to death," and are there important remedies other than supporting?

7. What is the evidence that very large quantities (one or two pints a day) of brandy or whiskey are necessary in severe cases; and what is the limit of alcoholic tolerance?

8. If corrosive sublimate be used; what is the evidence:
a. Of bacillicide influence?
b. Of sufficient dosage?
c. Of timely warning of toxic effect?

9. What is the value of the tincture of chloride of iron—of chlorate of potassium—of surgical interference?

I hope we may have answers to these questions which will fully show the means most in use amongst us. Especially desirable is it that those who are getting better results than formerly in their own practice should give us full details. I suggest that we make this therapeutical discussion so accurate and full that we may preserve the record of it as a guide in practice. If I had not found diagnosis of so much importance I should have had time left to enter upon treatment and would like to have stated my doubts and difficulties. I have very much wished to know when administering doses of medicines, like alcoholic spirits and corrosive sublimate, toxic if the patient were in health and strength—when have I given enough of such medicine?

We may regard alcohol as a valuable food in the disease. We also expect it to develop and sustain the pulse. May we give it until it does do that? The direct toxic effect of alcohol is paralysis of vital nervous centres, and changes in blood, liver and spleen. Does disease obscure or conceal these injurious effects of the remedy while we push it for its still unattained, perhaps unobtainable, good effects. We know that corrosive sublimate, in antiseptic use in surgery and obstetrics, sometimes unexpectedly produces fatal toxic effects. For our guidance, if we use it, we would be glad to hear the histories of any accidents that have occurred.

When we come to the desperate strait of laryngeal obstruction what reliance can we have on the calomel fumigation of Dr. Corbin?

If successful methods are in use where the child refuses to take the food it so desperately needs they should be stated.

Can the rest of the child be destroyed and must the sick-room be made a horrible prolonged struggle, for days and nights, exhausting the strength even of adult attendants with incessant doses, fumigations, and sprays.

But I must leave all the questions of treatment to be answered by the members, begging them to remember that if very good medicines indeed have prominence in the questions, that is not intended to prejudice the remainder of the pharmacopœa.

PREVENTIVE:

10. What are the important measures of prevention:

a. In the family?

b. In the neighborhood?

c. In the town or city?

d. In schools?

e. How long should children who have escaped in infected houses be excluded from schools?

f. How long should convalescent children be excluded from schools?

11. What is the relative value of isolation:

a. Of the person?

b. Of immediate destruction of fomites?

Questions 10 and 11 are closely related.

The most important means of prevention in the family is to consider and advise that every sore throat may convey the infection of diphtheria; and to see that the children's throats are inspected; any with sore throats separated and treated until entirely well. Especial suspicion attaches to the sore throats of the adult members of the family, as they are least likely to be prostrated even when infected and infectious.

When diphtheria is epidemic, as last winter, its neighborhood development is very noticeable.

What constitutes neighborhood? Is it contiguity of houses and street communications? Or is it social intercourse? The visitor in the parlor or the cook in the kitchen may come from an infected house and often times kindred and friends are neighbors too. Children meet and play in the streets of a neighborhood as well as in school. In this matter of who is our neighbor and what is *his duty to us,* I make an extract from a very good authority and if the doctrine seem hard yet it is encouragingly clear and if advanced the community must be educated up to it. I read from the "Michigan State Board of Health Report," 1886.

"Dr. A. G. Bush, health officer of the township of Campbell, in a letter dated October 31, 1885, stated as follows:

"A hired man at one of the families where diphtheria has occured, is obliged to go through the room where a child is sick with the disease to get to his sleeping room night and morning. Should such a person be allowed to drive or go through the streets of a village, and be sent to market with produce, or should he be considered infected, and isolated?

"In reply to the above letter a communication went from this office stating that diphtheria was believed to be often spread by adults who had only slight sore throat but who conveyed fatal diphtheria to children, and that the person referred to, should be isolated till all danger of his spreading the disease was over."

The distinguished and enlightened sanitarian, whom I have quoted, who has for perhaps twenty years administered the health laws of the State of Michigan, and with accumulating experience has wisely inspired, directed and guided both its Legislature and its medical profession in the important concerns of public health and the prevention of the spread of epidemics, Dr. Henry B. Baker, Secretary of the State Board of Health, is the authority referred to, and I know of no more instructive reading in the literature of diphtheria than is contained in his several official reports.

Such an officer in the service of a State is its best and most important, and its first line of defense and prevention.

The same statement may answer our question about measures of prevention in the town or city.

Brooklyn has had such an Health Officer, a physician of trained, scientific habits, a sanitarian practiced in all the details of a Sanitary Inspector's work; as Health Commissioner a most efficient and successful organizer, administrator and executive, whose record is great and whose permanent improvements in this city, and well-earned reputation was greatest and best appreciated among experts. From 1873 to 1886 Joseph H. Raymond M.D., was identified with the sanitary interests, and officially served the city of Brooklyn; then he was retired, and for illustration of the consequences I recommend a somewhat careful reading of a corporation document, the "Annual Report of the Department of Health of the City of Brooklyn for the Year 1886."

One illustration of the consequences and of our present theme I will take from it: Diphtheria—reported cases, 1,679; deaths, 782; that is, 46 deaths in 100 cases. Typhoid fever—reported cases, 291; deaths, 260; that is, 89 deaths in 100 cases.

These diseases and scarlet fever together—reported cases, 3,916; deaths, 1,382; that is, of the important contagious diseases, 35 deaths in 100. The "Report," in its second paragraph, presents for "consideration" "our various efforts for the preservation of the public health and the prevention of contagious diseases." Again quoting from the "Report": "In reference to the seeming prevalence of scarlet fever and diphtheria, this department has taken every known precaution to prevent its spread."

According to the "Report," 7,411 sanitary inspections were made. Was there, as the figures would show, a malignant fatality attending contagious diseases that year? But in the preceding year, 1885, the same diseases caused 1,034, or 338 *less* deaths; yet 11,521, or 4,110 *more* sanitary inspections were made. And to these 1,034 deaths were 4,071 reported cases, which was 155 more than in the succeeding year of *greater mortality* and *less sanitary work*. But does any one remember that contagious diseases were especially severe in 1886? On the basis of 1885 there should have been 3.9 cases reported for every 1 death of the diseases we are considering (in diphtheria 2.6 to 1), but the department had before it in 1886 only 2.8 reported cases for every death.

Does the "Report" say that the physicians of the city failed in their duty (3,916 where there should have been 5,389 cases reported)?

No. But it says: "Physicians have been furnished with postal card *reports of contagious disease*. These are used by them to notify the department," etc., "on receipt of which our inspectors are at once sent to the premises to see that all precautionary measures are taken, proper quarantine established, and thorough fumigation made with sulphurous acid fumes." Excellent! And the department having "taken every known precaution" "in reference to the seeming prevalence of scarlet fever and diphtheria," "congratulates your honor and the public in that our mortality record will compare so favorably with that of former years." *

To sum up, the year 1886 witnessed an increase of diphtheria in Brooklyn—263 more deaths than the previous year—and of the prevalence of contagious diseases generally, excepting measles; yet no increase in sanitary vigilance, but a diminished number of sanitary inspections, and of "quarantine" and "sulphurous acid fumes," and "all precautionary measures."

Does any one doubt that the retirement of Dr. Raymond and the relaxation (it makes one think of paralysis) of sanitary work were cause and effect?

Again, in the midst of the epidemic diphtheria of 1887–8, the new year brought with it a new political broom, which swept out of our civic house some valuables—to wit, sanitary inspectors long and especially trained in the management of epidemic disease.

The medical profession should demand, and labor to create a public opinion in Brooklyn to sustain the demand, that our Health Department should be, and be preserved, a service of experts, entirely out of the field of politics.

A political Health Department is an absurdity, or would be if it were not a standing invitation to disease.

The Health Officer of Brooklyn is as necessary at his post as the chief of the Fire Department. His watch of the epidemic areas of diphtheria must be as incessant as their menace of the public health.

In 1874 diphtheria was epidemic in Brooklyn. I was then Sanitary

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* The contagious disease clerk, who has the labor of recording, naturally notices "an actual reduction of 2,964 reported cases." He observes that "the reduction is especially noteworthy in typhoid fever, 291 cases this year compared with 435 last year," etc. Yet there were 107 more deaths from typhoid fever in this felicitous year.

Superintendent. If I may quote from my report to the Board of Health, it will give a statement about this matter made when the impression was fresh and deep in my mind. I wrote:

"Note the slow but persistent increase (of diphtheria) from year to year, the generally moderate increment until the last year, when the increase was more than 100 per centum, and marked a stage of epidemic intensity which has carried, and will still further carry, the dreaded disease from its first limited and prepared fields among the neglected tenement house population, and in houses situated on undrained and filled-in ground, to the most salubrious quarters and among the best conditioned inhabitants of the city, who thus, and in many other ways, are taught that the means to be employed to protect themselves from zymotic diseases, and the time and place for action, is to be mindful of the sanitary interests and homes of their poorer neighbors.

12. What would be the result upon diphtheria in Brooklyn if all the house drains and public sewers were kept pure in the sense of cleanliness; or, if organic processes and products in their walls and contents were chemically destroyed?

The house-drains and public sewers are, in effect, apartments of our houses (haunted chambers, if you please), that we don't like to know much about. I will insert a clipping from the *New York Times*, which lets in a ray of light:

TESTING IRON PIPES.—BOARD OF HEALTH REGULATION WHICH BOTHERS THE PLUMBERS.

The strictness of the Board of Health, in enforcing one of its regulations, has raised a very bad feeling between the Master Plumbers' Association and the manufacturers of cast-iron pipe. It appears that an old regulation of the Board requires that all cast-iron drainage pipe must be able to stand an air test of five pounds, as a guarantee against leakage. The enforcement of this regulation was rather lax, until the hot weather of the past summer set in, when, as a precaution against fever, Chief Inspector Collins, of the Department for the Inspection of Drainage, ordered that it be lived up to to the letter. It was then that the plumbers' troubles began. Chief Collins' men, in carrying out their orders, found a great deal of cast-iron tubing from two to six inches in diameter, which leaked when the five-pound test was applied.

Consequently the plumbers who had purchased and were using the pipe had to throw it aside, and, if it had been put in place, were obliged to take it out. Complaints on this score became so general that the matter was brought before a meeting of the Master Plumbers' Association. The evidence put in at the time satisfied the Association that among all the products of the cast-iron pipe manufacturers there was none that was perfect, and in most cases one length of pipe in five would be found porous in the seams. A committee was appointed to wait on the manufacturers and ask them to test the pipe at the factory.

The manufacturers replied that they could not afford to do this, even though they increased their price. The Secretary of the Plumbers' Association, Edward Murphy, says that this decision of the manufacturers was unanimous. The plumbers were, of course, angered by it, and advertised that they wished to hear from a manufacturer of cast-iron pipe who would test his product at the factory. "If we find one," said Secretary Murphy, "the members of the Association will all buy of him. One thing is certain: We will not continue to buy cast-iron pipe that will not stand an air test no stronger than the power of a healthy man's breath."

One may know a good deal about house-plumbing and have many surprises in store for him.

Dr. Raymond, formerly Health Commissioner, has favored me with a reply, at my request, to Question 12. It is more valuable than anything I could offer, and, with your permission, I will read it:

DR. AVERY SEGUR.

Dear Doctor: You ask me what, in my opinion, would be the result upon diphtheria in Brooklyn, if all the house-drains and public sewers were kept pure in the sense of cleanliness; or, if organic processes and products in their walls and contents were chemically destroyed.

In answer to this question, I would say that I believe that if the contents of house-drains and public sewers were disinfected, together with the walls of the same, and kept so by subsequent disinfection, and if house-drains and other channels of communication between the sewers and the interiors of houses were so arranged by means of joints, traps, etc., as to exclude sewer-air, and thoroughly ventilated, and if the discharges from patients were disinfected before being deposited in the drain, the prevalence of diphtheria would be greatly diminished. Or, to put my view in another form: I believe that the cause of diphtheria is a microbe, or the product of a microbe; that this microbe is contained in the secretion of the mucous membrane of the throat and nose, and possibly in the alvine and renal discharges, and that when deposited in the sewers and house-drains, these microbes are carried by the sewer-air into the interior of houses, where they produce the same diseases in those exposed, either by being absorbed by the mucous membrane of the respiratory or alimentary passages, and that by disinfecting agents these microbes, or their products, are rendered innocuous.

My reasons for believing that the sewer and house-drains act as channels for the dissemination of diphtheria I will not now give.

My reasons for believing that much can be done in the way of destroying infectious material in the public sewers are two-fold: First. From my own experience. And Second. From that of others.

First. As to my own experience—When typhoid fever prevailed in Brooklyn, in 1885, the sewers in the infected districts were repeatedly flushed, and disinfected with chloride of lime. The coincidence between this disinfection and the cessation of the fever was marked; so much so as to convince me that they stood in the relation of cause and effect. Dr. Wallace and others who were cognizant of the facts, were equally satisfied of the intimacy of this relation.

Second. The experience of others.—Dr. Buchanan in an epidemic of typhoid fever at Croydan, I think, disinfected the sewers with the same result.

In the published proceedings of the American Health Association, Vol. XI., will be found a paper by Dr. D. W. Wight, formerly Health Officer of Detroit, entitled "Experiments in Disinfecting Sewers." In this paper Dr. Wight narrates his experience in disinfecting the sewers of Detroit with copperas and fuming sulphur. In speaking of the result he says: "There followed the use of copperas and sulphur a great abatement of diphtheria, and an almost entire cessation of scarlet fever."

I do not wish to be understood as holding the opinion that diphtheria is conveyed through sewer-air alone. We all know that the disease is propagated by personal contact and in various other ways. But I look upon the sewers and their connections as one of the principal means of its dissemination.

In conclusion let me suggest that the influence of your Association and that of other medical organizations be directed toward an effort to practically test this view in Brooklyn by selecting a section of the city where diphtheria is prevalent, and enlisting the aid of the Health Department and the Department of City Works to practice thorough and repeated inspection of the house-drains and sewers, and, where defects are found, remedy them, and to disinfect thoroughly and repeatedly these sewers and their contents.

I am, very truly,

J. H. RAYMOND.

Brooklyn, October 2, 1888.

A few remarks upon question 13 and I leave the subject to the Association.

Is there more hope of saving life by practicable but now unused means of prevention, than by any present or probable means of remedial treatment?

Consider diphtheria from the point of view of its steady prevalence, its endemic, and at times epidemic force in Brooklyn, and too frequently the helplessness of our art in its presence. There were about 1,100 deaths from diphtheria in the city, year ending October 1st. Can preventive means stay this pestilence among our children? can they stamp it out?

Then we must not be deceived in our diagnosis. Dr. Baker says he finds in Michigan diphtheria has gone under many aliases.

Jacobi says wherever there is a crowd there is sure to be diphtheria in it. Then diagnosis must be detective. Trousseau strongly insisted, long ago, that diphtheria-membrane in the fauces might be overlooked, and when looked for already passed out of sight, because of the absence of local symptoms. Diagnosis must not lag so far behind while contagion hastens on before. I have tried to show that there is a very large number of mild cases, adults and those who yield but slightly but still do not entirely resist infection when it is widespread and of epidemic intensity. That being so, diagnosis must be suspicious.

I think it will not alarm intelligent parents to say to them that in seasons when there is a great prevalence of mild cases of diphtheria, it is only prudent care for the well children to separate the one with sore throat until we know better what is its nature. Tonsilitis needs a great deal of study and must be confined. And the chronic forms, in which it is said the throat continues to be infectious after the membrane and acute sore throat have disappeared, must not be ignored.

Dr. Baker says, " if the knowledge of a disease is half its cure, the knowledge of the method of its spread is half its prevention."

Hence we want to specialize, to evolve out of our professional body, members for the function of sanitary inspectors and of health commissioner.

And when such are found in official position by natural evolution, we must look to it that they be not lost in political revolution. Let there be a recognized sanitarian always at the head of our health department.

I must close with the suggestion that the comparison of values of prevention and cure must be deferred until practice in prevention has given us more insight and foresight of the deeply mysterious ways of " the pestilence that walketh in darkness," and " the destruction that wasteth at noonday."

A NOTE ON THE SURGICAL TREATMENT OF DIPHTHERITIC PSEUDOMEMBRANOUS LARYNGITIS.

By J. D. RUSHMORE, M. D,

What is the value of surgical interference in the treatment of diphtheria ? Of course this question is asked in relation to the laryngeal stenosis that takes place in a fair proportion of cases of the disease, but is a possible complication in every case ; and requires no answer in relation to other inter-current troubles of the eye, the ear etc., that are more or less common. And in the present review of the subject, the ground gone over in this note may best be confined to the consideration of tracheotomy and intubation—purely surgical measures. And for the better limitation of the subject it is taken for granted that every purely medicinal agent local and general has had its value put to the test including all hygienic and sanitary measures and the surgeon's advice is sought only so far as it bears on surgical interference. And under such circumstances the surgeon must have very definite views to meet the searching questions that are asked by the family or friends of the patient. For while the physician may be allowed to put into his patient and out of his reach almost any potent and impotent drug that does not disturb the stomach overmuch, all proposed surgical work must undergo direct and cross examination before it is done and all probable and possible complications must be laid before the friends before operative measures are either accepted or declined. The annoyance that the surgeon is sometimes subjected to in accomplishing this is very great and frequently prejudice and ignorance defeat the object in view. But there is no little satisfaction derived from the fact that with people of ordinary intelligence surgical art is able to so present the facts in the case that the surgeon shall have no cause to regret his advice whatever the result may be.

The laryngeal condition that calls for the consideration of the propriety of operative interference is one characterized by dyspnœa so severe that the respiratory function or blood æration is compromised to such a degree that with each inspiration the soft parts in the epigastric region are depressed instead of being elevated as in normal respiration. Of course with this symptom the other well known symptoms of laryngeal obstruction are present. To make the case one proper for operation this dyspnœa must be continuous. When this stage is reached, but not before and usually not much after, relief by surgical aid is indicated.

At this point it becomes a matter of much importance to know how many cases of diphtheritic pseudomembranous laryngitis in the condition above indicated recover without operation. I have never happened to see recovery take place under these conditions, although I am well aware that it does sometimes occur. But it is quite impossible to get at any exact tabulated statistics bearing on this point. D. W. Cheever, (*Medical and Surgical Report, Boston City Hospital*, 1870, p. 500), states:

"It has been estimated by some authorities that of those not operated on, not one in fifty recovers." This probably includes all forms of pseudomembranous laryngitis. Levett & Munro (*American Journal of the Medical Sciences*, July, 1887, p. 166), state: "Steiner has seen only three recoveries of this sort, Mackenzie sets the death rate without operation at 90 per cent., and in thirty-three cases of croup treated medically many years ago by Dr. John Ware, thirty died." Lewis Smith, Meigs & Pepper and Agnew believe that recovery without operation is more frequent than is commonly supposed. The experience of the City Hospital (Boston), has been as follows: Forty cases of diphtheritic croup have been treated and every one died. Dr. S. W. Say, in 1886, writes: "Not a single case of pseudomembranous laryngitis has ever recovered in this hospital without operation." Writing in 1884 Dr. Cheever says: "After reflection I cannot recall a case of membranous laryngitis that I have known to recover without tracheotomy. Since then there have been two recoveries from moderate dyspnœa without operation." It is a striking fact that nearly all surgical writers agree in the statement that when medical treatment fails to relieve or avert the disease, and an already present dyspnœa threatens to become complete, our only hope is in tracheotomy. If any considerable number of recoveries had taken place in the experience of these writers the above unqualified statement would hardly be made. It would seem fair to state, therefore, that if a case of membranous laryngitis with dyspnœa such as we are considering is left to itself or even actively treated by medical agents alone the prognosis is very grave, that at the outside ten per cent. only recover and according to most observers a much smaller percentage and even then the recovery is by a chance, and chance ought not to weigh with us much in advising what is best to do in the interest of the patient.

Another point to consider is: If such a large proportion of cases will die in spite of medical aid, what will be the history of such cases after the dyspnœa has begun? Some will die from heart failure, some in convulsions, some choke to death suddenly, but I believe that a large majority will die quietly in coma. The clinical history of these cases in my own experience has been nearly always a gradually increasing restlessness and dyspnœa, with paroxysms of spasm added from time to time, and threatening death; then the spasm is relieved in a few moments, but a very considerable amount of distress continues, and then a rather rapid development of unconsciousness, lasting several hours, and the patient dying quietly, the breathing being still obstructed. And the same sequence of symptoms takes place without the spasm, in those cases, where tracheotomy has been done, if the membrane is found below the tube.

With these facts fairly presented to the friends or family, what can be said in favor of operative interference, and what must be said against operating. In advising operation, we recommend for a chance an exact surgical measure that will accomplish its object in nearly every case—relief to the dyspnœa. And this is all that is claimed for it. It is simply one of the remedies employed in the treatment of symptoms. And, if its success is measured in this way, a very large percentage of the cases recover—not from the disease but the dyspnœa. And even if the membrane develops below the tube, the suffering, though great, is less than where a laryngeal spasm is added. At the same time, that we may claim these advantages for the operation, we should bear in mind the difficulty of the operation in some cases; the danger of hæmorrhage, of anæsthesia, of septic infections of the wounded tissues, etc.

But while the relief to the dyspnœa would constitute a good ground for the operation, it can fairly be claimed that tracheotomy has saved a large number of lives. The article in the *American Journal of Medical Sciences* already mentioned, gives in tabulated form the percentage of recoveries in 21,853 cases of croup and diphtheria, 6,135 recoveries and 15,552 deaths, or 28 per cent. recovered, and this varies from 24 per cent. among the French authors to 31 per cent. among German authors. No approximation to such a percentage of recoveries has ever been made, so far as I am aware, for any method of treatment without surgical aid. My own experience in the treatment of membranous laryngitis include but twelve cases where the operation of tracheotomy seemed indicated. In each of these cases the dyspnœa was so severe that there seemed no question about the propriety of the operation. In some cases it was done with more hope than expectation of success. The ages varied between ten months and twenty-one years; the disease in seven cases, diphtheria; in five, croup; the day of the disease, from the second to the sixth; all were anæsthetized with ether or chloroform, except one adult; in no case was there dangerous hæmorrhage, and in three the hæmorrhage was not even troublesome; in all except one, the relief to the breathing was immediate and complete, although subsequent dyspnœa from extension of the membrane was developed in several instances. In no case, except one, was the operation in any way responsible for the death of the patient; but I am persuaded that life was prolonged by it and death made easier. The result in each case was death, except one of croup in a child seven years of age, operated on on the sixth day of the disease. In one case of a child six years of age suffering with diphtheria, operated on on the fourth day, death took place from shock in about fifteen minutes after the introduction of the tube. In this case I believe the child would have lived longer if the operation had not been done. In every case relief to the dyspnœa has followed, and in no case except one has there been any regret expressed on the part of the parents that the operation has been done; but, on the contrary, satisfaction has been felt and expressed that even temporary ease had been furnished.

With a clear idea of the indication for operative interference in the existence of severe and continuous dyspnœa, a word may be spoken in regard to the contra-indications. I take it that the only absolute contra-indication is the existence of obstructing membrane below the point that the tube can reach. I think an operation in any other condition is justifiable, but of course not promising as regards the termination of the disease. But the swollen neck, the hæmorrhagic tendency, the engorged and inflamed lung, the septic condition of the blood, the crippled state of the heart and kidneys are such grave complications that when the whole case is stated to the parents, as it ought to be, the operation will often be declined. And yet, to encourage us, we are constantly seeing reports of cases of recovery from apparently hopeless conditions. So, in proper cases, I am forced to the position, by large statistics and by the natural history of the disease that tracheotomy is a humane and frequently curative measure in the treatment of diphtheritic laryngitis. The same process of reasoning that leads the surgeon to decline to operate in the class of cases under consideration because death results from the disease in such a large percentage of cases, would justify him in refusing to do colotomy in malignant disease of the rectum, or sustain the physician in refusing or withholding all efforts to check a pulmonary hæmorrhage in pulmonary phthisis.

In regard to the relative merits of tracheotomy and intubation, the latter may certainly claim to have the advantages of being free from the danger of hæmorrhage, septic wound infection, and all the possible mishap of an incision. It can be done without an anæsthetic; it is done quickly. It saves as many lives as tracheotomy. The claim that it has an advantage in being allowed when tracheotomy would be declined is a valid one, only on the ground of its being equally efficient in relieving dyspnœa and saving life. If the tube, however, is not introduced very quickly a good deal of struggling ensues, and the patient is no nearer relief than if no effort had been made. The weight of testimony would seem to show that the introduction is not by any means easy; there is danger of pushing membrane before the tube; if the tube is too small it may be coughed up or slip downward; and if it is large enough to be retained it may become blocked up with membrane and require removal, and this is, perhaps, even more difficult than its introduction. It is less easily managed by the nurse than the tracheal tube, and thus far it has in many cases proved a great obstacle to the proper nourishment of the patient.

While, therefore, it has some manifested advantages over tracheotomy, the preference in the present state of the two processes ought, I think, to be given to tracheotomy. But no general rule can be laid down for all cases. The individual care must often determine which measure shall be adopted.

SHOCK.*

By David W. Cheever, M.D., of Boston.

The operative surgery of our time has annulled pain temporarily, arrested hæmorrhage permanently, averted septic absorption. It has not prevented shock. This is still a cause of much fatality. It is the object of this paper to inquire whether modern surgical procedure has *diminished* shock, wherein it fails to do so, and to suggest improvements of its defects.

What is shock?

When any one gropes his way in a dimly-lighted passage and meets unexpectedly a strange person at some turning, he experiences a start, a mental apprehension; his heart turns over, flutters, but at once recovers its balance. Pursuing his path, if he now, in descending, misses a step in the dark, he has a greater shock to his nerves, he braces himself, flutters, sweats, or is chilled. If he falls and bruises himself moderately, he has vertigo, nausea, cold sweat, pain. If he falls and breaks open a joint, he has syncope, epileptiform convulsions, nausea, fluttering pulse, sweat, pain. If he injures himself more severely, he has unconsciousness.

This is a simple description of the degrees of shock: Apprehension, fluttering, sweating, chilliness, pain, vertigo, nausea, faintness, convulsions, unconsciousness, collapse.

The phenomena of a fainting fit are the phenomena of shock. Sudden, disagreeable, painful, destructive impressions produced on the surface or efferent nerves, and affecting the brain; thence the ganglionic system; then the heart, the stomach, the skin; and thus the brain, at last.

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* Read before the American Surgical Association, at the First Triennial Congress of American Physicians and Surgeons, at Washington, September 20, 1888.

Moderate shock terminates in reaction. This is the *recoil* of the system. It restores the balance, but the pendulum which marks the nervous force swings back beyond the normal line. We have temporary fever, flush, full pulse, excitement.

Severe shock is more lasting. The pulse vibrates, intermits, flags, rallies, flags again, is soft, compressible, uncertain; faintness is constant, but partial; vomiting occurs; cold extremities; dilatable pupils; pallor; imperfect reaction; very slow recovery; a condition where a feather turns the scale against the patient.

If now an operation is done, we have renewed shock, prolonged shock, secondary shock; a matter of days rather than hours; persistent nausea; exhaustion; lowered temperature; diarrhœa; imperceptible and gentle death. Or, if an old person, that state known as prostration with excitement; typhoidal delirium, a dusky flush over the malar bones, dull eyes, intermittent pulse, jactitation, exhaustion, death.

Primary shock, reaction; early and perfect, or slow and imperfect. Secondary shock; prostration, nausea, excitement, collapse. Loss of blood, from accident or operation, adds to the shock or complicates its symptoms.

Jar, crushing, mutilation, pain, cutting, bleeding, chilling, all act on the nervous centre; react on the ganglia, the heart, the power of breathing, the temperature, the consciousness, the life.

Given, then, the problem and the phenomena of shock, what particular influences have the operative procedures of *modern* surgery upon them?

They may be summed up in three points:

The effects of anæsthetics.

The effects of the operations.

The effects of the dressings.

These all belong together and affect each other.

Anæsthetics annul pain, but end in nausea.

Operations under anæsthetics are needlessly prolonged and exhausting.

Modern dressings are tedious and chilling.

Have we lessened, or added to, shock by modern surgery?

Pain and bleeding are *less*. Slow cutting, nausea, exposure, low temperature are *more*. Primary shock is diminished; secondary shock is increased.

Formerly the time consumed in an operation was short. An amputation was hurried, now it is deliberate; an abscess was incised, now it is aspirated and curetted; a joint injury was cut off, now it is excised; the peritoneum was peeped into, now it is boldly explored; the bladder was cut for stone, now it is a prolonged crushing and washing; a breast was amputated, now the axilla is formally dissected. The old method was a matter of minutes, now it is one of hours.

Patients are frequently from one and a half to two hours on the operating table, and three hours in recovering consciousness so that they can swallow. Do we realize what this prolonged cutting, pinching and dissecting mean to the nervous system after anæsthesia is past? Does not the long exposure of the great veins to the air, in dissecting tumors, increase coagulability and future infarction? Can the peripheral nerves be lacerated *seriatum* without exhausting the constitutional irritability? It is recognized that long-continued and large dissections on the front and sides of the neck are especially fatal.

Operations of *secondary* magnitude are now so prolonged that I have repeatedly seen patients die of primary shock, or *repeated shocks*, where the patient was one to two hours under the knife. It is said that he had not the vitality to resist. He had not; but consider what a perineal section, scooping out a uterine tumor, curetting a bladder, removing glandular enlargements, sometimes involve in time, in exhaustion, in capillary oozing, in shock.

Equally unphilosophical and fatal is the practice of operating in cases of primary shock before reaction has come on. An amputation is begun in half life, and ended in death. Especially difficult to decide are the cases where the patient reacts imperfectly and relapses. These cases are easily made fatal, and only saved by the quick amputations, slight exposure and short anæsthesia. The golden moment of fairly established reaction must be seized before traumatic fever sets in. This moment comes in from six to eighteen hours after the injury, or it never comes.

It should be considered an *axiom* that anæsthesia does not diminish existing shock, but only annuls the additional shock which the pain of cutting produces. It prevents the pain of an operation from increasing the shock which may be present from an injury. It prevents the pathological case from experiencing the shock produced by the pain of cutting out a tumor, it does *not* prevent the secondary shock of the mutilation. It adds to secondary shock if the anæsthesia is prolonged.

In feeble subjects the lack of nourishment which precedes an operation, desirable on account of safe anæsthesia, is much aggravated by their inability to retain food after the operation. This has an important influence in bringing about collapse.

Lowering of the bodily temperature is constant after an operation under anæsthesia. The thermometer frequently falls to 97°, to 96°, and after severe and prolonged operations to 95° Fah. This is a very serious matter, and has a marked influence in delaying reaction from shock. This chilling of the vital heat is induced first by anæsthesia, which, if prolonged, ends in a dripping sweat; next by careless exposure during an operation. Then also it is largely due to antiseptic irrigations, to vapor douches of similar agents, to applications of cloths wet in corrosive or carbolic solutions around the site of the operation. The axillæ, the neck, the thorax and the abdomen are especially prone to deleterious chilling in this way.

Evaporation is a great factor in reducing heat, and this is constantly occurring on the body of the patient in a warm atmosphere during a prolonged operation. Especially is this dangerous when the peritoneal surfaces are exposed; evaporation then is very rapid and very extensive.

Warm douches and washes gives as great a subsequent chilling as cold ones, as all experience who take a tepid bath.

The sufferer is frequently allowed to lie about too long under an anæsthetic, waiting for his turn, in busy hospital practice.

The surgical toilette of wounds, in the modern modes of dressing, is depressing, exhausting, devitalizing.

Finally comes the greatest evil of all, nausea. Nausea is one of the marked symptoms of severe shock, primary or secondary. Unfortunately, anæsthetics very frequently produce this as a secondary effect.

Persistent vomiting and retching mark the slow sinking and collapse of secondary shock after capital operations. Continued nausea is one of the worst of symptoms; begun in pain and shock, it recurs after anæsthesia, and continues as the most dangerous factor in preventing reaction.

What can we do to prevent or diminish shock?

(1) Wait for reaction.

(2) Never neglect to calm those suffering mental shock by a cheerful word and personal presence.

(3) Give alcohol, either spirits or wine, a quarter of an hour before the anæsthetic.

(4) Make the anæsthesia short; never begin it until everything is ready; suspend it during the less painful dressings. Consciousness returns *tardily*. We keep up the anæsthetic longer than is necessary.

(5) As rapid an operation as can prudently be done.

(6) As short a dressing as practicable.

(7) As a cardinal point, is avoid *chilling* the patient.

To promote reaction after the operation:

(1) Persistent and *carefully* applied *dry* heat. (Be *over*-careful about accidental burns.)

(2) Liquid nourishment, combined with a stimulant and a little laudanum, by enema.

(3) Subcutaneous injection of brandy.

(4) Aromatic spirits of ammonia by the mouth. Champagne is sometimes retained when other things are rejected.

(5) Black coffee and brandy, the stimulant *par excellence*, when it can be retained; on the stomach.

(6) Quiet; a horizontal, or more than horizontal position; sleep; assurance that all is over and doing well.

Modern surgery has won *three* great triumphs:
It substitutes sleep for pain.
It averts secondary hæmorrhage by the animal ligature.
It prevents fermentation by germicidal applications.
Can we add a *fourth*, by stilling the nervous system and averting or diminishing secondary shock?

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SELECTIONS.

REMARKS ON THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE BRAIN.

Delivered at a meeting of the Worcestershire and Herefordshire, Bath and Bristol and Gloucestershire Branches. By J. Hughlings Jackson, M.D., F. R. C. P., LL.D., F. R. S., Physician to the Hospital for Epilepsy and Paralysis; and Physician to the London Hospital.

[*Concluded from page* 337.]

In some cases of epileptiform seizures we may carry out the threefold investigation of the clinical problem they present to definite conclusions. *Anatomical*, the lesion is of this or that part of the cerebral cortex; *physiological*, it is local high instability of cells of that part; *pathological*, the disordered nutritive process is a result of occlusion of an artery supplying that part. Here the distinction between functional state and pathological process leading to it is not a pedantic refinement, as it may have seemed to be in the case of hemiplegia.

I think the hypothesis that the primary change in most cases of epilepsy proper is arterial is countenanced by analogy; that there is in some cases of it, as well as in some cases of epileptiform seizures, a change of high instability of cells consequent on plugging of a small arterial branch; that there is thus produced what I call a "discharging lesion," a change of a few nerve cells of some limited part of the cortex other than that of the so-called motor region of one side of the brain; a persisting but yet varying, very local, hyper-physiological state.

It follows from what I have said that I no more believe that fright, overwork, indigestion, masturbation, etc., "cause epilepsy" than I believe that they cause hemiplegia; all that anybody can know is that such "causes" sometimes precede the first epileptic fit. Taking but one of these so-called causes—fright; if a patient has his first epileptic fit directly after a fright, I should conclude that there had been produced by some pathological process a "discharging lesion," one nearly ready to discharge, and that the physical disturbance during the emotion, fright, was only the determining cause of the first "explosion." Similarly for chorea. It is notorious that chorea frequently follows fright, and the current hypothesis is that fright is one of the causes of this disease; the hypothesis I hold as to the relation is that fright (its physical condition) is but a determining cause of discharge of nerve cells already highly over-unstable. To return to epilepsy. If arterial plugging (cortical) leads to the destruction of some cells, and also to over-nutrition and consequent high instability of others, we have to account for loss of movements as well as for convulsion. For the highest centres (" organ of mind ") are, I submit, sensori-motor, and the lesion in epilepsy proper is, one must suppose, of these centres. I think we may say that the higher the nervous centres the less serious (as to movements) is a " destructive lesion," and the more serious is a " discharging lesion " ; for the higher the centre the more complex, etc., it is, and thus the greater is the compensation for negative functional lesions, and also the greater the co-operation in excess for super-positive functional lesions. Compensation and co-operation in excess will be greatest in the highest centres. The epileptic, so to say, carries about with him a hyper-physiological parasite, a part of his highest centres of no use for normal function (but for which, as a loss, there is nearly absolute compensation), and which is worse than useless (a " mad part "), for when it discharges it produces widespread or universal convulsion by compelling healthy nervous arrangements to co-operate in its excess. I suppose, however, there is loss of some movements from negative lesions of the highest centres, in spite of there being no discoverable inability in any muscular region (*vide supra*).

It follows from the hypothesis I hold as to the physiology and pathology of epilepsy that I do not entertain the hypothesis held by many medical men that there is *any relation of community of character* between epilepsy proper and insanity. There is, I think, no such relation between the pathological and physiological state of the brain in epilepsy and the pathological and physiological state of it in insanity. There is *a relation of sequence* often enough ; not rarely there is temporary mania after a fit, and sometimes chronic mental failure occurs in epileptics ; that relation of sequence is quite a different thing from a relation by community of character.

I will make a few remarks on the treatment of epilepsy proper. For the negative functional state in hemiplegia we can do nothing ; nervous elements are in most cases gone, and in post-epileptiform hemiplegia the paralysis needs no treatment. In epilepsy the other, the diametrically opposite, kind of functional state is a very different thing in its therapeutical bearings. It is notorious that our treatment of epilepsy is deplorably unsatisfactory, and if my hypothesis be correct —that there is a persisting local lesion in the highest centres of one side of the brain—there are good reasons for it. The radical cure of epilepsy, as of epileptiform seizures, is for the surgeon to cut out the " discharging lesion ; " but in no case of epilepsy proper do we as yet know its exact position ; it will differ in different epilepsies. Still we may interfere for good in the local over-active process of nutrition, always going on, which keeps up the high instability of cells of the " discharging lesion."

Apart from any particular hypothesis as to its pathology, the excessive liberation of energy by the "discharging lesion" of necessity implies the taking in of a large amount of materials having potential energy—that is, increased nutrition. Some of the measures found beneficial in cases of epilepsy are presumably owing to reduction of the local nutritive process in the arterio-cortical area, so that there is less active nutrition and more stable tissue. It is a very old recommendation that epileptics should eat but little fresh meat—highly nitrogenized food. On this I insist, excluding obvious exceptions. It is a good plan to name the number of ounces of meat, a guide being that the middle diet at hospitals is four ounces. Epileptics should eat less, regard being had to their work, etc. They must be content "to live on a little lower level." They should have much exercise. The presumption is that the empirical remedy bromide, possibly by substitution nutrition, leads to formation of more stable nervous matter. Belladonna has had great repute, and no doubt does some good (I advise it especially in nocturnal epilepsy, a big dose at bedtime). I never give it alone, so can say nothing certain as to its individual value. Speaking very generally, we may say that, experimentally, belladonna induces a negative state of inhibitory and secretory nerves, leucenteric fibres; it stimulates centres which govern those parts of the body by intermediation of motor, polio-enteric nerves.* Its action is, however, very complex. This atropine injected into the carotid stimulate the vagus origins and renders the heart's beats less frequent; the latter action is on the vagus ends. In epilepsy we dare not give such large doses of belladonna as the experimentalists can to animals, but we should give the drug until some physiological effect is produced—drying of the mouth, for example. In the doses we can give it will not, I should imagine, influence the "discharging lesion;" but it may act beneficially in that the effects of the epileptic discharge will be less upon important parts of the body as they are supplied by inhibitory nerves, and more on them as they are supplied by motor nerves. I suppose it is better for the currents consequent on excessive cerebral discharge to pass by the accelerator fibres to the heart than by the inhibitory vagus fibres. I submit that the leucenteric fibres are those most affected by the epileptic discharge, and that they are those first exhausted (so during fear). They are presumably later developed (hence great tolerance of belladonna by young children), and thus fail first in dissolution.

It is well known that in pernicious diabetes sugar disappears from the urine during febrile ailments, the explanation being, I suppose, that the dilated hepatic arterioles do not then get so much blood as when general arterial tension is normal. (If the splanchnic nerves are divided before experimental injury to an animal's "diabetic centre," there is no glycosuria). It is known, too, that in febrile diseases epileptic attacks usually cease. I suppose that in this condition, arterial tension being relaxed, or during the stage of febrile disease when it is relaxed, the semi-stagnant patch—"discharging lesion"—in the cortex gets less blood. Is it possible that the good effects of the seton in some cases of epilepsy are owing to the induction of a slight miniature febrile condition? I suppose that nitroglycerine is given in epilepsy to produce general arterial relaxation. I have as yet but little experience of this remedy. Increase of arterial tension would be another reason for diminishing in an epileptic's diet the quantity of highly-nitrogenised food; for during high arterial tension, which much food of that kind may induce, the "semi-stagnant patch" may get more blood than if the patient has a simpler diet. On the great importance of degrees of arterial tension in epileptics Dr. Broadbent insisted strongly in his Croonian Lectures (1886), and since hearing them I have paid very particular attention to states of the pulse in epileptics. Besides ordinary care of the bowels and dietetics, we may give occasionally small doses of blue pill when there is undue arterial tension. We should in such cases not give strychnine.

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*Here, once more using Gaskell's terms, I would urge that by aid of his thoroughly practical work and brilliant generalisations our scientific studies of many nervous diseases will be very much faciliated.

In cases of epilepsy the patient should "avoid excitement." But in young people we may err in being too strict; we may narrow a young epileptic girl's life too much by forbidding the amusements proper to her age. If she have a fit soon after a hearty game or a dance, it is, I think, only the premature development of a fit nearly due.

ON HAY FEVER AND ALLIED CONDITIONS.* By P. McBride, M.D., F.R.C.P.E., F.R.S.E., Aural Surgeon and Laryngologist, Royal Infirmary, Edinburgh.

In discussing hay fever and allied conditions, I have no desire to enter more than can be helped upon the vast subject of nasal reflex neuroses, nor do I propose to interlard my paper with literary references to the numerous authors who have contributed or attempted to contribute to our knowledge of the unpleasant affection which renders summer and sunshine so disagreeable to its victims. Further, I shall assume that the symptoms of hay fever are more or less familiar to all present.

Although I have so far used the term hay fever, it seems to me that the expression is by no means a happy one; although it is now in such constant use that further criticism in this direction might run the risk of being termed captious.

It is hardly necessary to remind anyone here that the nose contains erectile tissue, and that although the cavernous structure is most marked under the mucosa of the inferior turbinated body, it yet exists in other situations. Everyone accustomed to examine the nose must have seen for himself how truly erectile this structure is, and how, almost in a moment, the application of cocaine or menthol may reduce a tumor-like swelling of the inferior turbinated body by a half or more. The connection between this erectile mucous membrane and summer catarrh was pointed out years ago by Hack, but does not seem to have been sufficiently noticed in recent works. During the period of erection the lining membrane of the nose is of course swollen, and upon the intensity of the process it will depend whether or not the stage of exudation—in other words, actual inflammation—be reached. It therefore seems to me that in discussing anomalies produced by the erectile tissue of the nasal mucosa we must sharply distinguish two groups of cases according as the symptoms are caused by: (1) simple erection of the mucosa; (2) erection followed by exudation, one form of which is hay fever. This latter division might again be subdivided as follows: (*a*) cases in which the symptoms are those of simple coryza; (*b*) cases in which asthma is also present.

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* Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

1. *Simple Erection of the Mucosa.*—In this affection the parts most involved are, as might be expected, the inferior turbinated bodies. The troubles produced by this simple erection—often uncomplicated by other lesions—have so far been two much overlooked. Every year I see a number of cases in which the patients complain of nasal obstruction; not always present, but coming on at intervals. In these cases examination of the nose reveals no definite lesion except undue enlargement of the inferior turbinated bodies, which immediately subsides after the application of cocaine, and leaves nasal respiration perfect.

The class of persons who suffer most are (1) men (usually young adults) undergoing hard brain work, or of very neurotic temperament; (2) young women of the neurasthenic type. Medical students who are working for an examination furnish, in my experience, quite a large proportion of examples coming under the first category. One of them assured me that when sitting over his books at night a tumor sometimes actually protruded beyond the nasal orifice. Among women, as is well known, erection of the turbinated bodies tends to increase during the menstrual periods, whether the nasal obstruction be associated with catarrh or not. The discomforts caused by this simple erectile swelling of the turbinated bodies, have often seemed to me to be quite out of proportion to those likely to be caused in a robust individual by temporary occlusion of the nose; but I presume that in the nervous irritability which, according to my experience, always exists in such cases, the explanation of this apparent anomaly is to be sought. I shall now turn to the second group of cases, namely:

Those Cases in which Erection is Associated with the Symptoms of Coryza.—Hay fever is an affection which, as you are aware, is said to be, and probably is, due to the contact of pollen from certain grasses with the nose. The symptoms come on suddenly, and practically resemble those of a common cold. I do not propose to enter into a discussion of the vexed question as to whether pollen or dust causes hay fever. I should like, however, to point out that in quite a number of cases other causes produce phenomena perfectly analogous to those of hay fever. It is hardly necessary to mention the odors of certain flowers, the emanations from some domestic and wild animals, drugs, etc. It seems to me, therefore, that the name, "vaso-motor coryza," used now by not a few American authorities, is much more appropriate than such appellations as hay fever and rose cold, which yet leave a number of cases nameless. Without doubt the sudden and rapid occurrence of the symptoms after exposure to irritation can be well explained on Hack's hypothesis that erection of the turbinated bodies follows such exposure; and I would further venture to suggest that those who reject this view will find considerable difficulty in, to use a political phrase, framing an alternative and plausible explanation of the chain of symptoms under discussion. Of course it is difficult to understand why in one individual the pollen of grasses, in a second the odor of a rose or other flower, in a third ipecacuanha, in a fourth the presence of, or contact with, some animal, should produce erectile swelling of the nasal mucosa. We must fall back upon a name which is, after all, but a mask for ignorance—idiosyncrasy. The same mystery, however, shrouds the causes of other individual peculiarities: thus one person cannot eat eggs, which to most are a wholesome form of nourishment; another cannot swallow with impunity even a small quantity of crab or lobster. Even in matters of everyday life we meet with similar experiences, if not quite enough to prove, at all events to illustrate, the idea conveyed in the old proverb, "What's one man's food is another man's poison." I suspect that in this question of hay fever and allied conditions we can get nearer the mark than is the case in most of the examples just used. Leaving quite out of account the importance of heredity, etc., in the causation of hay fever, I think most of those present will agree with me that, if the erectile theory be correct, we must assume that the nerves which govern the swelling of the turbinated bodies are in the victims of vasomotor coryza unduly irritable. Manifestly such irritability may depend upon general hyperæsthesia of the whole nervous system, or upon hyperæsthesia effecting only the nerve endings within the nose; in other words, the actual immediate etiological factor may be some general neurotic tendency—as for instance neurasthenia—or it may be due to local changes within the nose. Further, it is not improbable that in certain persons channels of reflex action are more developed than in others, that is to say, without any observable change, a tendency to certain reflexes exists. As an example closely allied to the subject in question, I need only mention the inclination to sneeze which occurs in some people on exposure to a bright light. I would submit, then, that in cases of undue tendency to erection on the part of the nasal mucosa we should seek the etiology in one or more of the following conditions: (1) general neurasthenia or a neurotic temperament; (2) organic changes in the nose; (3) hyperæsthesia of the nasal mucosa, as evidenced by a more than normal tendency toward sneezing and running of the nose when certain parts of the lining membrane are touched with a probe.

Let us now, before discussing treatment, turn for a moment to *those cases in which asthma is also present.* Most of those who interest themselves in nasal diseases are aware that asthma is one of those neuroses which has been frequently cured or relieved by treatment directed to the organ of smell. This may, I think, be accepted as an incontrovertible fact, whatever be the explanation. Asthma being a more or less pure neuroses—at least in many cases—it is thus shown that there exists between the nerves of the nasal mucous membrane and those nerve channels which produce asthma a very close sympathy. It follows, then that when asthma succeeds hay fever, or any analogous affection, it is, in all probability, a nasal reflex neurosis. It may be remembered that, not very long ago, Sir Andrew Clark, in an able effort to revive the congestive theory of asthma, began his paper by an extended reference to hay fever. His argument seemed to me, however, to ignore altogether the possibility of asthma being in certain cases a nasal reflex; and, in the second place, it missed its mark by being unaccompanied by any proof of the existence of erectile tissue beneath the bronchial mucosa. I have no wish to enter into the various theories as to the causation of asthma; but it does appear to me that the chain of events is not altogether unparalleled by the act of coughing. We know that on inspiration the glottis opens more widely; it is not impossible that the trachea may also extend its lumen, and it is not outside of the bounds of possibility that the bronchi should play a similar part. In expiration the glottis tends to close, and, for all we know to the contrary, the trachea and bronchia may become narrowed. A cough is a full inspiration, followed by an attempt at expiration, which is cut short by the closure of the glottis becoming complete. Is it not possible that the trachea and bronchi may follow suit? If this hypothesis should prove correct, it seems possible that in certain cases of asthma the phenomena of the attack may be explained by the want of correspondence as to contraction and dilatation in different parts of the respiratory tract. Be this hypothesis right or wrong, however, we must yet look upon cough and asthma as so far similar that in both the relation between inspiration and expiration is altered. Sneezing is, of course, to be placed under the same category. So far as I have been able to observe cases of nasal asthma, it has seemed to me that, when there is a distinct relation between the nasal condition and the neurosis, touching certain areas within the nose with a probe gives rise, not to sneezing, but to cough. I am, therefore, inclined to look upon the production of cough by touching the nose as indicating that treatment of the nose should be attempted in any given case. If the occasional connection between nasal disease and asthma be once admitted, it is by no means difficult to trace the sequence of events in so-called hay asthma and allied conditions.

Let us now turn to the treatment of the class of cases we are considering. With regard to simple erectile swelling of the inferior turbinated bodies without discharge, the treatment should be energetic exactly in proportion to the amount of discomfort caused by the abnormal condition. As these patients are usually of what we may term the nervous temperament, it is well to make an attempt to get rid of this etiological factor by attention to regimen and general health. If these measures fail, or if the discomfort experienced by the patient be very great, the application of cocaine to contract the erectile tissues, followed by the galvanic cautery, with a view to the production of an adherent cicatrix, in order to tie down the mucosa to the periosteum, will, I believe, generally have a satisfactory result.

In considering the treatment of hay fever and allied conditions we are treading upon more difficult ground. As you are aware, there are at present held by authorities two more or less opposing views as to the etiological significance of nasal disease in the production of hay fever. Certain authors, such as Daly and Roe, are inclined to the belief that some nasal abnormality always exists in the victims of summer catarrh. Here I must, however, turn aside to ask, "What is a normal nose?" The question may appear absurd; but I am willing to run this risk if, by putting it forward, I can do a little towards moderating the enthusiastic zeal with which certain surgeons attempt to restore the noses of their patients to what each individual operator is his particular ideal of a normal nose. I have taken the liberty of making this observation because I have for ten years examined the noses of almost all the cases of chronic non-suppurative middle ear disease which have come under my notice during that time in private, hospital, and dispensary practice, and have found that, even when what to the rhinologist's eye would appear very grave changes are present, the patients frequently deny any nasal symptoms. Of course, in a number of these cases the pathological condition cannot be denied, and its presence accounted for the existing ear affection for which advice was asked. Yet the fact that in a large number of cases—capable of being counted by thousands—marked changes, such as hypertrophy and more or less marked projections from the septum, can exist without the presence of any discomfort referable to the nose, would incline me to believe that deviations from the normal are by no means always to be looked upon as a fair game for the operator. Speaking merely from a surgical point of view, and apart from the subject of hay fever and its allies, it seems to me that no condition of the nose should be looked upon as pathological which may be present in a number of healthy persons without causing any uncomfortable symptoms. It would occupy too much space to justify the position I here take up from an otological point of view; but, if required, I shall be glad to do so during any discussion which this paper may elicit. It is, however, not uncommon to meet with hay fever in persons in whose noses even the most fastidious stickler for the ideal would find it difficult to discover objectively a pathological condition. In such cases we must refer the undue sensibility of the nasal mucosa either to local or general hyperæsthesia—in other words, to undue irritability, either confined to the nasal nerves or extending also to the whole nervous system. As a matter of fact, I believe that in most cases the two factors are combined, except when within the nasal cavities we have a state of congestion which produces local hyperæsthesia. Last autumn I met with a most interesting example of nasal asthma which occurred in a gentleman who, although not a medical man is well known to science. It would take too long to touch upon all the points of interest contained in the elaborate notes of the case with which my patient kindly supplied me. The points of special importance were these:

1. The asthma only occurred in winter, and was much aggravated by hoar frost.

2. To quote the patient's notes: "For many years before, that is, the first attack of asthma, I had a cough. . . . . Previous to having asthma of the chronic form . . . I used to catch periodical colds; and when true cold came along with the acute asthma, I was very much distressed. Since the chronic (that is, sneezing, coughing, phlegm, and eyes watering), I have scarcely ever had a real cold."

3. The patient was muscular, in perfect general health, and certainly not neurasthenic.

4. Strict dieting, anti-asthamatic remedies, and especially bromide of potassium, taken before going to bed, often gave relief.

The patient was brought to me in September, 1887, by Dr. Carmichael, and, considering his physique, and the treatment he had tried, the neurasthenic element could be easily excluded. Dr. Carmichael had already considered the question of the asthma being nasal, and in this view I was confirmed by the fact that the interior of the nose was extremely hyperæsthetic, so much so that the moment even the hairs at the orifice was touched, cough and involuntary jerking of the head were produced. The interior of the nose was congested, and there was a marked tendency to erection of the inferior turbinated bodies. At first chromic acid was used in this case, and afterwards the galvanic cautery, with which the most sensitive areas were thoroughly scarred. The most hyperæsthetic parts were the anterior extremities of the inferior turbinated bodies, and a point near the junction of the septum with the anterior wall of the nose. I need hardly say that before each cauterisation cocaine was freely used. Three or four applications of the electric point produced such a beneficial effect, that on February 2d, 1889, a probe could be freely moved about in either nostril without the production of cough or spasm.

This local improvement was associated with a very marked diminution of the cough and asthma. I may add that, as an adjunct to the caustic treatment, the patient was in the habit of painting his nose internally with menthol solution whenever a paroxysm threatened.

Whether this patient is permanently benefited or has only been temporarily relieved, I cannot, of course, say; but that good accrued from the treatment adopted will be gathered from the following extracts from his notes:

"January 18th, 1888. No asthma, no sneezing or coughing, and very slight catarrh just in the morning; menthol usually stops it; menthol a splendid thing."

"February 4th, 1888. I need not say how grateful I feel to you for the immense amount of relief the treatment has given me, whether it prove temporary or permanent."

I have outlined this case for several reasons. In the first place it is a typical example of so-called hay fever, yet the attacks were produced not by pollen, but by hoar frost, and also by some subtle undetectable cause. Further, the relation between the nasal hyperæsthesia and asthma was marked, and when the former ceased the latter diminished. Finally, it shows that in some cases, at all events, destruction of sensitive areas in the nose, and the application of such an anæsthetic as menthol, which, I believe, is better than cocaine, in so far that it does not tend to become less efficient through repeated use, and in that it produces no toxic effects, is not only rational, but also the only effective treatment.

In the gentleman whose case I have outlined nerve tonics and the like were not indicated. In quite a number of cases, however, the use of arsenic, quinine, and valerianate of zinc is followed by distinct improvement. In these patients the hyperæsthesia of the nose is merely a local manifestation of a general neurosis, which can usually be detected by a careful investigation. To the question, "Is the galvano-caustic treatment contra-indicated in such cases?" I would answer in the negative. General nervous irritability is not always amenable to treatment, and it then behooves us to endeavor to allay the local hyperæsthesia, which is its most disagreeable manifestation. I have had under my care within the last two years a young lady who derived great benefit from cauterization of the nasal mucosa, and also from nervine tonics. That is to say, the cauterization delayed and modified the outbreak of the hay fever, and when it did come on the use of quinine and valerianate of zinc again checked it.

I have no absolute cures* of hay fever, or of allied conditions, to relate as a result of either cauterization or nerve tonics, but I have seen very marked benefit from both. I believe that the introduction of the electric cautery has not rendered us independent of all the aid we can derive from cocaine, menthol, sedatives, colored glasses, plugging the nose, and the seaside. Although I have used both general and local treatment in such cases as I have met with, I am painfully conscious that failure has been more frequent than even partial success. In one neurasthenic lady, who suffered from periodic attacks of nasal obstruction at all times, and who experienced very marked exacerbations during early summer, without there being any pathological condition of the nose further than the remains of adenoid hypertrophy in the naso-pharynx, and undue tendency to erection on the part of the inferior turbinated bodies, relief was obtained during the whole of last summer by the frequent application at home of a solution of nitrate of silver to the interior of the nose and the internal administration of tonics. In spite of this, and in spite of destruction of the mucosa over the anterior extremities of the inferior turbinated bodies, undertaken afterwards, I hear that the distressing symptoms have recurred this year.

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*Years of observation would manifestly be required to establish the existence of an absolute cure.

It is necessary to state that in all my cases of hay fever, neurasthenic coryza, nasal asthma, etc., I always explain to the patient that in each case the application of a caustic or the cautery is of the nature of an experiment, and that no positive result can be guaranteed. It goes without saying, that in neurasthenic patients the general health should be attended to, nerve tonics administered, fatigue avoided, and full diet with long hours for sleep enjoined.

It may be that some of us have failed in getting the best possible results from surgical interference owing to undue timidity, and the successes recounted by Roe, who certainly does not err in this direction, give much food for reflection. Although I do not agree with him that in all cases of hay fever the nose is in a pathological condition, yet it may be that he has a very high ideal of what the interior of the nose ought to be; and thus, either in his attempt to produce this ideal, or in his subsequent efforts to destroy every sensitive area, does more thorough work. Theoretically it seems to me that destruction of the sensitive areas of the nose, if only carried far enough, and if it can always be carried far enough with perfect safety, must be the best treatment for any coryza which has been proved to result from the contact of an irritant with the nerve-endings of the nasal mucosa. When Sir Andrew Clark uses carbolic glycerine, quinine, and perchloride of mercury as an application to the interior of the nose, and succeeds in relieving hay fever, he produces, I take it, temporary anæsthesia of the part, and so renders it less susceptible to the action of irritant particles. Probably the carbolic acid is the active therapeutic agent, and it might be worth considering whether the use of the pure acid might not be serviceable in certain cases.

Before concluding this paper I must touch upon one other point. Probably in most cases of summer catarrh and allied conditions the nose is the sensitive point. It may, however, be that in others the erectile swelling within the nose tends to be produced by irritation of more remote parts. It is certain that in some persons a very strong light will produce a miniature attack. It therefore behooves us to study each case by itself, for it is only thus that we can hope to arrive at a perfect knowledge concerning hay fever, nasal asthma, and allied conditions—not to speak of reflex nasal neuralgia, a much commoner affection I believe than it is generally considered.

ABSTRACTS.

CÆSAREAN SECTION. REPORT OF CASE. DESCRIPTION OF SANGER'S OPERATION*. (By Gustav Zinke, M.D., Cincinnati.)—I was called, March 17, 1887, by Dr. Adolph Grimm to see a primipara, æt. 23, of Austrian birth, who had been in labor for thirty-six hours under the care of a midwife. Several unsuccessful attempts to deliver with the forceps had been made. Patient was a pale, dwarfed brunette, 51.75 inches tall, lower limbs small and knock-kneed. The sacrum joined the lumbar vertebræ at almost right angles. She was tolerably well nourished. Face wore an anxious expression, skin cold and clammy, abdomen tympanitic and tender. Temperature 100°, pulse 110. Fœtal heart distinctly heard at the left of the median line on a level with the umbilicus. Digital examination showed cervix fully dilated, and the head of the child rested, occiput to the left, transversely above the superior strait. The middle of the first phalanx of the index finger pressing against the lower border of the symphsis pubis permitted the tip of the same finger to rest against the promontory of the sacrum, a distance of three inches. Thus, according to ordinary calculation, the diameter of the brim, conjugate, could not be more than 2.25 inches. The oblique and transverse diameters could not be determined. Another effort to deliver with the forceps showed plainly that this could not be done. The question was, mutilation of the child or Cæsarean section. The child was alive; to resort to craniotomy was to sacrifice the life of the infant, while it would not have materially enhanced the mother's chances. Immediate action was demanded. Hysterotomy, in the opinion of the operator, would save the infant at least, while it did not deprive the mother of all hope of recovery.

The operation was determined upon and undertaken one and one-half hours after Dr. Zinke was called, and about thirty-eight hours after the woman was taken in labor. Abdomen, vulva and upper portion of the thighs were washed with soap and water, instruments and sponges were treated antiseptically, and the hands of the operator and assistants were cleansed thoroughly. A 5.5 inch incision was made in the median line midway between the umbilicus and mons veneris. All hæmorrhage was stopped before the uterus was opened. By passing the finger over the surface of the womb the position of the child could be nicely palpated, and it was thus determined that the placenta was not attached thereto. A small incision was made into the median line of the uterus, upper part, and a blunt, curved, pointed bistoury was introduced into the opening, which was carefully enlarged to 4.5 inches. The right arm from elbow to shoulder presented. The extraction of the healthy and full-grown child, though accompanied with some difficulty, was the work of only a few seconds. The womb contracted immediately, and the hæmorrhage was but small in amount. The patient was pale, pulse perceptible but very weak, breathing embarrassed. The cord was severed and passed out through the cervix. The womb was closed with the interrupted carbolized silk suture, eight stitches being introduced, and the placenta was then expressed through the vagina by gently grasping the fundus uteri with the finger tips. The intestines had not been exposed. Satisfied that there was no oozing anywhere, the abdominal wound was closed by eight heavy silk sutures, and a strip of lint, dipped in carbolized oil, was placed over the wound. The rest of the dressing consisted of absorbent cotton and a moderately tight abdominal bandage. The operation, exclusive of giving the anæsthetic, lasted one hour and ten minutes. The patient died on the seventh day from the combined effects of peritonitis, dyspnœa and asthenia. The child lived.

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* Abstract of a paper and report of case before the Cincinnati Academy of Medicine.

Post mortem showed the abdominal wound enormously distended and the contents of the abdomen held in place by a firm thick band of adhesion matting the omentum uterus and bowels to the inner surface of the anterior abdominal walls. The intestines showed a diffuse peritonitis intesting to each other to all the adjoining viscera and abdominal parietes, with the exception of the lower two thirds of the uterus, the bladder and the true pelvic cavity. Liver, spleen and kidneys normal. It was found that union had not taken place along the entire tract of the incision into the uterus. A space about one-fourth inch in extent corresponding to the upper suture had not united. There was, however, no communication between the cavities of the uterus and abdomen as this was prevented by adhesions of this section of the womb to the abdominal wall in front. The inferior half of the uterus and the ovaries were greatly discolored, almost black. The pelvic peritoneum had the same appearance, and the upper half of the body of the uterus a yellow greenish tint. There was no fluid pus present but a curdled cream-like, non-adhesive pus, distributed in spots or islands upon the pelvic viscera and the peritoneal line of the pelvic cavity. The uterus and appendages being removed the diameters were found as follows: Conjugate, 2.5 in.; Transverse, 4.5 in.; R. Oblique, 3.75 in.; L. Oblique, 3.75 in. The diameters of the inferior strait and those within the pelvis could not be accurately taken, yet the doctor thought that could the head be made to pass the brim the rest of the cavity would have presented no great obstruction.

Was Cæsarean section indicated in this case? Two inches in this country 2.75 inches, conjugate diameter at the brim in Germany, France ,and other European countries, is considered, with a few qualifying restrictions to demand hysterotomy. Contraction of the antero-posterior diameter alone is not considered sufficient cause for the operation. The forceps were faithfully tried in this case and found wanting. Craniotomy did not seem to be justifiable. To have abandoned the case entirely or to have removed her to more sanitary quarters would have been cowardly and probably have resulted in the death of the parent and child.

The fatal issue may be attributed to long delayed and exhaustive labor, repeated unsuccessful attempts to deliver with the forceps, bad hygienic surroundings, shock, vomiting and inability to retain sufficient nourishment, general peritonitis. It may be well to say that in this as in any other pubital surgical operation a certain practical experience in the performance of the operation is absolutely necessary to success. But where, it may be asked, is one to obtain this practical experience in our country which affords such limited opportunity for this special practice? Where the teaching of obstetrics is most thorough, practically, Cæsarean section has been oftenest successful. Germany "takes the premium," while America shows the lowest per cent. of recoveries. This fact will remain so long as the teaching of practical midwifery remains a strange thing to the profession of this land.

The Sanger Cæsarian section, I am convinced will, or should, become a more frequent and successful operation, not a *dernial*, and futile resort to save the life of the mother and child. The instruments which are in the possession of every operator should be disinfected with carbolic acid and the patient and operator with the bichloride. Antiseptic precautions are pretty thoroughly used by Sanger.

The abdominal incision should be in the linea alba and in a manner corresponding exactly with anterior median section of the uterus. The umbilicus need not be avoided. Hæmostatic forceps and the introduction of provisional sutures for the purpose of subsequently drawing the incision together are not essential. Eventration of the unopened womb is not advisable, because it necessitates enlargement of the abdominal incision and renders interstitial prolapse more liable. If assistance is insufficient and one wishes to be quite sure that none of the uterine contents escape into the abdominal cavity this may be done.

Uterine incision is made midway between the fundus and the lower uterine segment and in the median line. This lower uterine segment should be especially avoided, and it can be known by the loose attachment to the peritoneum. By plancenta previa Cæsaria, the placenta should be either quickly cut through or detached on one side. Delivery of the child is accomplished in the quickest and best manner by the fact. If the head be retained, wait a short time only, if this be due to contraction of the uterus; if relaxation does not occur soon, or if the incision be too small elongate the same with button pointed scissors.

Eventration of the uterus is accomplished during the extraction of the child, it being bent forward and the abdominal wall quickly pressed together behind it. If the assistant keeps the abdominal wall intimately in contact with the uterus all the time, neither blood nor uterine contents can find their way into the abdominal cavity.

The bowels may now be protected with an antiseptic cloth, the uterus rests upon another and is partly covered thereby. For the elastic construction of the lower uterine segment, for the purpose of arresting hæmorrhage from the womb, compression by hand or torsion of the organ in its long axis, may be substituted in the absense of rubber tubing. Eventration and bending forward of the uterus as well as retraction and contraction of the same, have already served materially to lessen the loss of blood.

The after-birth is to be detached canually and carefully the previousness of the os examined, and the inner surface of the uterus made smooth. The uterine cavity need not under ordinary circumstances be disinfected, though one can introduce some iodoform and until the deep sutures have been inserted a sponge or a few strips of antiseptic gauze.

In the interests of simplicity it is not necessary to undermine the serosa, binding in the same or after fissuring it laterally nor to resect the muscularis bow-shaped condition of the angles of the incision and irregular rugged borders of the wound; then of course the latter must be rendered even and parallel and the peritoneal edges must be, unless there exists strong outward retraction of the peritoneum broad exposure of the muscularis, brought inwardly so as to be in opposition.

The principal points in the treatment of the uterine wound is the close double suture. Soft silver wire is best adapted for the deep stitches, they should seize both peritoneum and parenchyma broadly, but leave the decidua free; the point of entrance and exit of the needle should be about 1 c. m. from the margin of the incision, 8-10 sutures are sufficient. After these sutures have been introduced, tightened and shortened, a great number (16-30) of superficial, serous sutures, are so inserted that each peritoneal border of the opening is perforated twice, after the method of Lembert. If silver wire be not convenient, strong aseptic silk may be employed.

The final acts in the operation consist in the bending of the wire ends upon themselves; in case of bleeding after removal of the tourniquet, from the line of incision or suture wound, the introduction of stitches for the purpose of controlling the same, washing of the uterus with a strong antiseptic solution, iodoforming the suture line previously rendered entirely dry, and lowering of the uterus into the abdominal cavity. A toilet of the latter will only be necessary if fluids have found their way into it; but this may be easily avoided. The abdominal wound is to be closed without drainage, with silk button sutures. The line of incision is iodoformed, over this a thin adhesive plaster dressing is applied. As soon as the patient is placed in bed, an ice-bag is placed upon the abdomen and several injections of ergot should be given.

The after treatment should be as inactive as possible.

The remarkable results attained by the Sanger method suggest the following questions:

1st. Are those favorable results solely due to the manner in which the uterus is sutured? Certainly not; but this sero-serous suture, by bringing the peritoneal edges of the uterine wound into intimate opposition, creates a degree of safety never before attained, and in connection with asepsis, more experience and greater skill, encouraging an early operation and to all these things may be attributed the remarkable record of successful cases.

2d. Are the curtailed indications for Cæsarian section, as taught and upheld hitherto, still binding? Or have we the right to be more liberal and increase the sphere of usefulness of the capital operation.

In the light of the present glorious achievements of the Sanger operation I would not be surprised, indeed I would believe it quite justifiable, that a three inch conjugate, and probably more if you please, an impacted head or shoulder presentation in which the child still lives, and turning is impossible, excessive size of fœtus, mal-presentation, tumors not operable, certain cases of osteo-malacia and other congenital or constitutional vices which doom the woman to death, Sanger's improved operation will be adopted by those well acquainted with and experienced in his method. I would ask of my hearers and readers that they will give the Sanger method of performing hysterotomy that careful attention necessary for a perfect understanding and thorough knowledge necessary to successful performance. No one knows how soon he may be called upon to perform it. The only reason this case reported was not a Sanger operation was that this method at that time was hardly known in America, and, indeed, has scarcely been mentioned in our journals till the past year.

Hysterectomy for Malignant Diseases of the Uterus. (By Dr. Wm. H. Wathen, of Louisville.)—Hysterectomy for malignant diseases of the uterus was done by Freund in 1878, and is now a recognized operation by nearly all learned gynæcologists. He removed the uterus through the abdomen, but the mortality was so great that this means of operation is no longer approved of except in a few cases where it is not possible or practicable to remove it through the vagina. In the abdominal method the mortality was 72 per cent., but it has been reduced by the vaginal method, in the practice of a few expert operators, to 8 or 10 per cent. And in a collection of 311 cases, operated on by Fritsch, Leopold, Alshausen, Shroeder, Staude and Martin, the mortality is only 15.1 per cent. Martin, in fifty-five consecutive cases, had a mortality of about 9 per cent. Fritsch, in twenty-four consecutive cases, had a mortality of about 8 per cent., and Staude operated successfully in sixteen consecutive cases.

As the operation is in its infancy, we may expect better results when experience teaches us more exact indications for its performance, and a more perfect technique in the details of the operation and the after management of the case. In the operation for high excision of the cervix the mortality is 7.4 per cent., and by this operation it is impossible to know if we have removed all the tissues involved in the malignant growth, as the disease may have extended high up the endometrium, or in the parenchyma of the body. Nor is it always possible to do so by subjecting the tissue to a microscopical examination, and never possible except the examination be conducted by a microscopist experienced in such matters.

The subsequent results are better after total extirpation than after supra-vaginal excision. Of course, high amputation should not be performed where the endometrium or the parenchyma of the body or fundus is primarily or secondarily involved. The disease may extend from the neck to the body, and remain there for some time without

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* Abstract of a paper read in the American Association of Obstetricians and Gynæcologists at Washington, D. C., September 20, 1888.

empoisoning the system or involving the structures in the immediate proximity of the uterus.

There are, however, a few gynæcologists who deny that hysterectomy for cancer is a justifiable operation, among whom is Dr. A Reeves Jackson, of Chicago, who read a learned paper at the meeting of the Ninth International Medical Congress to show that the operation had destroyed nearly 300 years of human life. This is a fearful exhibit, but statistics are often unreliable, and in many of these cases the disease had doubtless extended beyond the uterus, so that the operation was contradicted; but experience will guide us more correctly in the future, and results will be better. Küster, at the meeting of the German Surgical Association in 1883, reported 778 cases of removal of the cancerous breast, with a mortality of 15.6 per cent. 0.5 per cent. greater than the general average mortality following total extirpation of the uterus; but is there a distinguished surgeon who would hesitate to amputate the breast where the diagnosis of cancer is made before the disease has manifestly infected the system? If we recognize cancer as primarily local in its origin, and becoming constitutional secondarily by extension, then the correct treatment is to remove, if possible, all the involved tissues if it can be done with a reasonable degree of safety. With few exceptions, this can be done in cancer of the uterus by total extirpation only. But if the disease has extended to any structure outside of the uterus, peritoneal, cellular, or glandular, or if there is any systemic infection, then the operation is positively contra-indicated, and no one but a pseudo-gynæcologist, ignorant of the disease and of the technique of the operation for its removal, would attempt it.

Unfortunately, the popular craze in this country and in Europe to do abdominal surgery, and to record abdominal sections, has included in its grasp vaginal hysterectomy as well, and these operations are now being attempted by men who are not fitted for such work, the result being a fearful mortality, because the operator knows neither when the operation is indicated or how to perform it.

I have known of some sad examples of this in my own observation. It is positively *criminal* for any one to attempt to extirpate a cancerous uterus, or to do pelvic or abdominal surgery until he learns the anatomy, physiology and pathology of the pelvic and abdominal structures, and knows how to make a correct diagnosis where it is possible to do so; he should also know the general principles and the details of the most approved technique for such operations. It is indeed gratifying to observe that the progressive medical mind has taken cognizance of this abuse and in the future the general practitioner will be more careful in the selection of a proper person to whom he may refer such patients. These operations are among the most heroic and dangerous in surgery, and should not be done except by a person who has devoted much time and careful attention to all the theoretical and practical details relating to this subject.

The so-called gynæcologist who proposes to do work for which he has made no preparation, and for which he has but little aptitude, is controlled more by a desire to advance his personal interests than to do the best thing for his patients, hence he attempts operations that the scientific gynæcologist will not perform because he knows they are positively contra-indicated and will result in injury to and probably death of the woman. It is by no means an easy matter to decide when the operation is indicated, for we are often unable to say that the disease is malignant, or how far it has extended. Unfortunately many practitioners fail to note the early symptoms of cancer and when the woman is referred to the specialist the disease has extended so far that it cannot be removed.

No effort should be made to extirpate the uterus if there is the least evidence of cancerous cachexia and if in a careful physical examination any structure outside of the uterus in the pelvic cavity is at all infected. In every case when the diagnosis is not complete by a physical examination of the patient, part of the growth should be excised and carefully examined by a learned and an experienced microscopist, whose opinion will do much to aid us in deciding upon the propriety of an operation. But the microscopist cannot always differentiate between a benign growth and cancer. He knows that diseased cervices are more liable to cancer than sound ones, but can scarcely distinguish between the "heterologous glandular development invading new tissues with reduplication and proliferation of epithelium external to the contiguous basement membrane of the glands, and a cancerous degeneration, where the cells breaking through into the lumin of the glands, grow inward, forming solid plugs or processes instead of hollow tubes or acini." The transition of glandular erosion into cancer is often so insiduous that it is nearly impossible to decide just when the change occurs. Nor is it positively shown that cancer always originates in the new formed glands; the cervix may be infiltrated as a "carcino-sarcoma, an aggregation of small cells, lying in masses, more or less completely separated by partitions of connective tissue," with no direct connection with the epithelium or the glands. Probably the following conclusions of Fürst are about as reliable as any we have seen, viz.:

1. "Adenoma uteri simplex, or simple glandular hyperplasia, in which the uterine glands are increased in number and enlarged, but still preserve their typical character in structure and as to their epithelial covering—in which also the interstitial tissue is compressed, though there is no evidence of extraordinary cell proliferation—must be regarded as benign. It is not advisable, however, to treat this condition by curettement, application of caustic substances, and similar means, but by excision, for the new growth tends to malignant degeneration."

2. "Adenoma uteri-suspectum, or destructive glandular hyperplasia, which, whether it is localized or diffuse, shows a new formation of a typical gland tubes, together with more or fewer normal glands imbedded in connective tissue which is rich in cells—which also shows

an increase in the gland epithelium and a tendency to proliferation in its lower portions—must be regarded as a suspicious condition, and inclined to malignancy even in cases where no solid processes are demonstrable. In such cases excision will not suffice, but the uterus should be extirpated as soon as possible, the prognosis with reference to radical cure being good."

3. "Adeno carcinoma uteri, in which the typical gland formations have almost entirely disappeared, and in which we find epithelial infiltration and cancer processes in a foundation which is rich in cells, is absolutely malignant in character. Even if the uterus is extirpated, the prognosis as to radical cure is not good, for the chances of being able to extend the section into healthy tissue are poor; hence the treatment can only be palliative for the greater number of cases."

4. "The clinical symptoms in connection with cervix adenoma are of less value in determining as to operative procedures than the result of the pathologico-anatomical examination. As early an examination as possible of an excised portion of the mucous membrane is therefore imperative."

Asepsis, or perfect surgical cleanliness, should be enforced in every detail of the operation. The operation should not be performed until the bowels are well moved and the woman has washed her entire person in a bath of hot water and pure soap. Two gallons of hot water should be injected into the vagina just before the operation.

Weak solutions of disinfectants may be used, but I doubt their efficacy. The woman should be placed on her back, and when under influence of an anæsthetic the uterus should be drawn through the vulva and separated with the scissors or knife from its vaginal attachment, being careful not to wound the bladder or to cut the uterine artery.

After separating the uterus from its anterior and posterior attachments, carefully avoiding wounding the bladder, ureters or rectum, long catch-forceps such as I have devised, or such as are used by other operators, should be fastened on each of the broad ligaments, so as to cut off the blood supply to the uterus. The uterus may then be separated from the broad ligaments with the scissors or knife. This may be done without retroverting or anteverting it. No sutures are usually needed. If there is any considerable hæmorrhage from the cut edges of the vagina, it can be readily controlled by applying small catch-forceps, and, if necessary, leaving them in position. If it is desirable to bring together the peritoneal edges of the vaginal opening, this may be done by holding the anterior and posterior edges in apposition by catch forceps. The smaller forceps may be left in position for twenty-four hours, and the larger ones, including the broad ligaments, may be removed in forty-eight hours. By this means the uterus may be extirpated in less than half the time consumed in operating after the fashion of Shroeder and Martin, and the loss of blood should be too insignificant to be an important factor. But no one should attempt this operation until he is prepared and equipped to meet any emergency that may possibly arise.

CLINICAL RECORDS.

A CASE IN WHICH DEATH OCCURRED DURING ADMINISTRATION OF CHLOROFORM.

E. C., æt. 40 years, a commercial traveller, on September 6th was to be placed under the influence of an anæsthetic for the purpose of having some adhesions broken down in the knee-joint, the result of an old injury. The patient was a healthy-looking, well-developed man, apparently in every way sound, with the exception of pain, stiffness, and inability to fully use the left knee-joint. Chloroform was administered most carefully with a Junker's inhaler by Dr. S. Worthington, F.R.C.S. Eng., the acting assistant medical officer, a gentleman of much experience in the administration of anæsthetics. Patient took chloroform slowly and well, in quite a normal manner, slightly struggled, and went fully off in about five minutes. The inhaler was removed. I then commenced manipulations, forcibly flexing the knee; but almost directly he suddenly stopped breathing, and the face became cyanosed. The tongue was immediately drawn forward, windows opened, artificial respiration performed, hot flannels applied over the heart, and ether injected. Despite persevering and prolonged efforts, he never rallied; the heart stopped almost directly after the breathing, and, save for two or three gasps, showed no signs of life.

The necropsy revealed all the organs healthy except the heart, which was large and flabby, weighing 13 ounces. Its surface contained more fat than normal, although he was quite a spare man. The walls of both ventricles, especially the right, were thin and pale, especially at the apex of the right ventricle, where the muscular tissue was thinned to less than one thirty-second of an inch, and encroached upon by fat from the surface. The cavities were almost empty; the valves and coronary arteries healthy. The lungs were somewhat œdematous, but their tissue normal. The left knee-joint had no signs of recent inflammation or active disease of any kind. There were several narrow bands of adhesion across the joint, especially in the situation of the ligamentum mucosum, bands from it to the inner side of patella and to the inner condyle, and others round the crucial ligaments. These bands were evidently the cause of the pain and inability of fully flexing and extending the joint. With some force they were ruptured, and the knee could then be fully moved. Underneath the patella were two similar bands from the upper edge, reaching across the cartilage to the lower edge. During life, on moving the patella from side to side, a feeling of crepitation was produced which gave the idea of some denudation of cartilage, but this was found not to be the case, and to be entirely due to these bands; in fact, there was no bare bone in the joint. There had been an old fracture just above the condyles, but the parts were in good position, and no bony prominences interfered with movement.

An inquest was held on September 7th, and the jury returned a verdict of "Accidental Death," adding that they were satisfied that every care and attention had been given to the case.

It has been my fate to be present at three deaths from this anæsthetic, given by experienced administrators, and in all these cases I had felt convinced that it was respiration that first failed, and not the heart. I fancy there is still a widespread idea that in giving chloroform it is the pulse that should be watched, and in ether the respiration, or, in other words, that the former kills by the heart, the latter by the lungs. This error cannot be too seriously combatted, nor too energetically exposed. The instructions given by Sir Joseph Lister, in his excellent article on anæsthetics, in the last edition of Holmes's *System* is without doubt sound: "During the inhalation the pulse should be entirely disregarded, but vigilant attention kept upon the respiration." He calls it a "pernicious error" the idea that chloroform kills by the heart. In Edinburgh, he goes on to say, the administrator who is only a senior student is actually forbidden to touch the pulse. It would be interesting to know from him at this time, when so much attention is being paid to the question, whether he has had any reason to alter his oft-expressed opinion as to chloroform being preferable to ether. When a leading surgeon in, perhaps, the standard work on surgery of the day, enunciates a doctrine which with him has stood the test of time, one would be very chary, without far more potent evidence than has been yet adduced, to declare him wrong.

The voluntary stoppage of respiration so common in the early period of the administration, so easily appreciated and understood by the experienced administrator, is as a rule of small consequence, but in the event of a weak, fatty heart, even then may be a source of danger. But it is especially just at the time of complete relaxation that real danger commences. At that moment I maintain that in all cases the tongue should not be left to itself, but should be well pulled forwards by means of tongue forceps, and the administrator should not wait till some embarrassment in the breathing evidenced by snoring shall have commenced. If this be not done, one may well be deceived by the rising and falling of the chest walls into believing that air is actually entering the lungs. It has been stated that snoring is an indication for pushing the chloroform; it is no such thing, it is a sign that respiration is impeded, and the impediment must first be removed, and then the chloroform may be pushed.

Now, giving healthy heart muscles these slight impediments to the breathing are of not much importance, but the case is entirely different in the presence of a dilated, flabby, fatty walled heart, then any sudden check to respiration such as struggling or obstruction to the glottis may cause such extra pressure on to the right heart as to cause fatal syncope, analogous to the sudden death in aortic regurgitation from sudden increase of pressure within the left ventricle. In two of the cases mentioned as having occurred in my practice this fatty and flabby condition without valvular disease was well marked at the necropsies. One was in the case of a man debilitated from advanced tertiary syphilis, and in the last there was a history, afterwards discovered of chronic intemperance. The second was a different class. I was about to tie the common carotid for an aneurysm of first part of the arch of the aorta, when just as the patient was becoming insensible the breathing stopped, probably from spasm of the glottis as the aneurysm pressed on the trachea and the recurrent laryngeal nerve was involved, the heart went on a little longer but soon failed. Although the muscle was not fatty or thin, but in fact hypertrophied, the heart was hampered with a quasi obstruction of the aneurysm, which, with the additional strain thrown on it by the stoppage of the respiration, caused the syncope. In this case, in consequence of the condition of the lungs, ether was quite contra-indicated.

There is no doubt that chloroform does act as a cardiac sedative, and must effect the heart, but I submit that it does not do so sufficiently to cause death, except of course in the case of an overdose, in the absence of an obstruction to the blood in front, which obstruction may be ordinarily avoided by slow administration and a caréful watchfulness in removing all tendency to it.

CHARLES GROSS, M.D., B.S.Lond., F.R.C.S.
Medical Superintendent, St. Saviour's Union Infirmary.

A CASE OF SPLENECTOMY.

In *Lo Sperimentale* for August, Dr. Carlo Liebman, of Trieste, describes a case in which he successfully removed an enlarged and floating spleen. The patient was a woman, æt. 28, who in her third pregnancy noticed a hard, round tumor in her abdomen towards the left side, below the level of the umbilicus. For some time the swelling remained stationary, but five months before she came under the care of Dr. Liebman, it began to grow rapidly and to cause great pain, especially when she moved about. She became quite unfit for work, and on November 24, 1887, was admitted into the Ospedale Civico. On examination, the liver and spleen appeared to be normal in size, the area of dulness corresponding to what was supposed to be the latter, extending in the left axillary line from the eighth to the tenth rib, whilst its vertical diameter seemed to be about seven centimetres. The abdomen contained a roundish but somewhat oblong tumor about the size of a small adult head, which appeared to rest on the upper margin of the pelvis. The mass, which was situated rather to the left of the middle line, was evidently intraperitoneal. Its surface was smooth, with a kind of notch in the middle. It was movable in every direction, and could be carried up to the margin of the ribs on the right side as well as on the left, but could not be pushed into the hypochondrium beyond that point There was no adhesion to the abdominal wall in front. A distinct systolic *bruit* could be heard over various parts of the mass. The uterus was normal, but followed the tumor when the latter was pushed towards the right, but not when it was carried over to the left side or in an upward direction. The tumor could be freely handled and moved about without pain. There was no albumen in the urine, of which rather more than a litre was passed in the twenty-four hours, and there was no disturbance of digestion. A diagnosis of ovarian or mesenteric tumor was made, and laparotomy was determined on. On December 13th Dr. Liebman opened the abdominal cavity by a median incision eighteen centimetres in length, and divided the peritoneum, which was remarkably thin and transparent, along the whole length of the wound. The ovaries were atrophied, and neither they nor the uterus had any connection with the tumor. On drawing the latter out of the abdomen it proved to be the spleen, enlarged to four times its natural size; whilst *in situ* its convex surface had been directed upwards and forwards, and was adherent for a great part of its extent to the omentum. The mesenteric vessels were tied and all the attachments of the tumor carefully divided between double ligatures, till only the pedicle (formed by the vessels, etc., entering the hilum), which was as thick as the little finger, remained. This was then divided into three bundles, each of which was tied separately, the end of the last ligature being finally passed round the whole for additional safety. The pedicle was further secured by a second ligature two centimetres and a half higher up, and lastly it was again tied close to the spleen. It was then divided between the two last mentioned ligatures, and the spleen removed. The organ measured 17 centimetres in length and 10 in width, and weighed 600 grammes. Having satisfied himself that there was no blood in the peritoneal cavity, the operator closed the abdominal wound with seven deep sutures taking in the peritoneum, and five superficial ones. A Listerian dressing was applied. The patient rallied from the operation, and, with the exception of a good deal of tympanites, did well till the eighth day, when the sutures were removed, the wound having healed without suppuration. On the night of December 21st menstruation began. A good deal of pain accompanied the discharge, and there was some pyrexia. Soon extensive parametritis set in, which, however, yielded to general treatment. The patient remained weak and anæmic for some time, but finally left the hospital completely cured on March 25th.

ST. MICHAEL'S HOSPITAL, KINGSTOWN, DUBLIN.—STRICTURE OF THE ŒSOPHAGUS.—(Under the care of Mr. D. Edgar Flinn.)

A case peculiar in its history was admitted into St. Michael's Hospital under my care a short time since, and the *post-mortem* appearances being of an unusual nature, I thought they might be of interest. On admission, the patient presented a very emaciated appearance, and had been complaining for nearly four years of a difficulty in swallowing, which he stated had considerably increased of late, he was very weak, had an anxious expression of countenance, was very pallid, and complained of extreme cold in the extremities, he could only swallow milk or other fluids, and these only in small quantity, he suffered from paroxysmal attacks of severe lancinating pain in the chest, and when he attempted to swallow any liquid nourishment it nearly always became regurgitated, and had to be ejected from the mouth, there was a frequent regurgitation of a brownish fluid of an offensive odor. For the first week or ten days he obtained relief by the passage daily of a small œsophageal bougie, No. 14—I was unable to pass a larger one than this. About the fourteenth day after his admission, he became troubled with a most distressing cough, which became very much aggravated on the slighest attempt to swallow, and which made the passage of any dilating tube, no matter how small, both difficult and hazardous. The stricture became more and more contracted, notwithstanding every effort to keep it dilated, a No. 10 catheter becoming difficult to pass. Nutrient enemata were administered three times a day, and the distress alleviated by hypodermic injections of morphine. He continued to grow weaker, and died about three weeks after his admission to hospital. A *post-mortem* examination was made, and it was found that the left lung was very much atrophied and collapsed. The walls of the œsophagus were greatly thickened, and surrounded by a hardened mass matted together, which implicated the neighboring structures; the œsophagus was very much narrowed in its lower fourth, and the most contracted part of the stricture was found to be about three-quarters of an inch from the cardiac orifice of the stomach, and would hardly admit of a small-sized pen handle being passed through it—the stomach was enormously dilated, so much so that when the abdomen was opened it appeared to fill up the entire cavity, and was full of a brownish fluid very offensive in odor, a large fruit stone was found immediately contiguous to the pyloric orifice, embedded in a pouch or diverticulum; this fruit stone must have lain in this diverticulum for a very long time, perhaps for years, for it is to be assumed from the *post-mortem* appearances that its passage through the œsophagus would have been well nigh impossible for the last two years of the patient's existence. From its position near the pylorus, it exercised some considerable pressure on the pyloric orifice, and thus in some measure the great dilatation of the stomach may be accounted for.

A microscopic examination of the parts revealed that the disease implicating the œsophagus was epithelioma, and that all the glands in the neighborhood of the œsophagus were affected also. This being the case it is a matter for surprise that the patient lingered so long. In the case under notice, the patient was so worn and emaciated on his admission to the hospital that any further operative interference than those I have mentioned would have been contra-indicated.

A DERMOID CYST.

STATE LUNATIC ASYLUM,
Austin, Texas, *October*, 19, 1888.

To the Editor of GAILLARDS MEDICAL JOURNAL:

Below I send you an account of a case met with at this Institution, which I believe will prove of interest to the medical profession at large.

Jane T——, æt. 49, single, was admitted to the Asylum September 4, 1884; form of insanity, Dementia C.; cause unknown. She died July 17, 1888.

Up to her death there was never any evidence of mental improvement. She was usually quiet and orderly; was a victim of mild delusions, but rarely gave much trouble in her management. Her physical condition was generally good, although at times she complained of pains in her stomach and bowels. On July 16, 1888, she was taken with cramps in her bowels resembling cramp colic. She suffered intensely, and nothing seemed to give any relief. Opiates were used freely, and external applications of mustard and turpentine stupes, but all without avail. Her pains continued unabated until 4.30 A. M., July 17, 1888, when she died. Autopsy five hours after death. Body well nourished, very fleshy; stomach healthy. A constriction was discovered in the small intestine, reducing the canal about one half. There existed great inflammation of several feet of intestines above the constriction. The intestines were black in appearance, and would, in a short time, have become gangrenous. This was the cause of death.

Attached by a pedicle to the broad ligament was a tumor as large as a man's fist. When opened it was found to be a cyst containing hair and an oily substance. The hair was firmly attached to the upper end of the capsule, enveloping it, and had apparently grown and doubled upon itself. The ovaries were normal, womb very small, but natural in appearance. Bladder, normal. Nothing unusual was discovered in any of the other abdominal organs.

The above history of the case and account of autopsy was written by Dr. Jno. Preston, First Ass't Physician, whom I assisted in the postmortem.

The diagnosis of the tumor was dermoid cyst. Emmet says: "In regard to the development of dermoid cystomata Waldeyer conjectures that it may take place as follows, although he admits that his views are not based upon the investigation of recent specimens. Each ovarian epithelial cell, he thinks, may become an ovular cell, and each ovular cell may produce all possible characters, by division; and further, the corneal layer is the first product of segmentation. . . . He does not trace the dermoid cystomata in the ovary to actual fœtal remains, but to possibly fœtal inclosures, nor does he consider them as results of perverse ovarian pregnancy. He assumes a mode of development that runs completely parallel to the course of development of the mystoid cystomata, but in which the new formed epithelial cells of the cystomata assume a different character; in fact, they are epidermoidal in structure. . . . Dermoid cysts are often developed in early childhood, and, as a rule, are recognized previous to the period of life when cystomata are more common. . . . They are lined by a secreting surface from which the fluid contents are chiefly, if not entirely, derived. . . . The fluid contents of these cysts are of a greasy consistency, resembling in consistency pea soup or gruel, according to its degree of density. . . . The solid contents are teeth, quantities of hair, and great portions of bony structures in which teeth are frequently found growing or as bony scales bound in the cyst walls."

Schrœder says of dermoid cysts: " It is only recently that light has been thrown on these abnormal formations. His at first entertained that the view that the Wolffian duct was formed by a folding-in of the horny layer; but this view, which was again advocated by Hensen, was afterward discarded. Very recently, however, His has modified his views, in which modification Waldeyer concurs, so that they now believe that the first rudiment of the genital organs is developed from the axial cord of His, in the formation of which the upper germinal layer also participates, and the horny layer contributes chiefly to its formation. From this we can understand how formations of the external skin can originate from parts of the upper germinal layers which have not contributed to the formation of the ovary, and how fat, bones, teeth, etc., can be produced from parts of the middle germinal layer which also participated from the folding-in of the axial cord.

" Accordingly, the first trace or rudiment of dermoid cysts is always congenital. Their further development begins after puberty, but in exceptional cases earlier. Mears has removed a dermoid cyst by ovariotomy from a child six years and eight months of age; and Spencer Wells has removed one in the same manner in a child eight years old." (Ziemssen Cycl. of the Practice of Med., Vol. X.)

Dr. William Goodell says: " A dermoid cyst is a congenital tumor having walls composed of elements like true skin with its appendages of hair and sebaceous glands, etc., and contains teeth, hair, bone, cartilage, muscle, and cheesy material very like vernix caseosa; that they are solitary, two never being found in the same person, they are always unilocular; external or internal; they affect the surface of the body, or else the cavities of the body. The theories accounting for their origin are remarkable, and are as follows. Excess of formative nisus, parthenogenisis or virgin birth, that is to say imperfect imitation of transmitted fertility, a property peculiar to insects, by which without renewal of fertilization successive generations of procreating individuals start from a single ovum."

I am very much inclined to take Dr. G's conclusion for I believe him when he says that no tumors are more curious, and none are more puzzling to explain. Many authors have many theories, and after all of their theorizing they have only given us a greater desire to know why there should be such abnormalities placed within or without our bodies. The theories are remarkable and as puzzling as the tumor, which we have under discussion; and as there is only one way to get rid of the knotty subject, I shall suppose that there is a wise provision of nature in all the abnormalities of the human system, the theories in regard to the cause of which being based, as yet, upon conjecture, tail of practical demonstration. For the present, at least, this unsolved problem must be left to the great scientists, from whom, from their past wonderful discoveries, we can but look for a definite solution. I must admit that in an active practice of a quarter of a century this is the first dermoid cyst that I have ever met with in my work.

Truly Yours,
J. S. DORSET, M.D.
Supt. Texas State Lunatic Asylum.

ORIGINAL CORRESPONDENCE.

15 RUE CAUMARTIN.
PARIS, *September* 15, 1888.

TO THE EDITORS OF GAILLARD'S MEDICAL JOURNAL:

Dear Sirs—The TOUR EIFFEL, now in process of construction upon the grounds appropriated to the Exposition of 1889, is to measure when completed five thousand feet from base to apex. Frenchmen of all classes take the deepest interest in this work, and watch its progress with intense satisfaction, regarding it as a paragon of engineering skill and as deserving to rank among the wonders of the world.

However this may be, it has already been made to subserve the interests of science in a manner which never entered into the calculations of its builder, and which will identify it for the future with the solution of some very interesting and important medical problems.

As you know, Malphigi long ago demonstrated that the circulation of the blood can be distinctly perceived and studied in the tissues of certain inferior animals. Recently, however, it has been discovered that this phenomenon can be equally as well observed and investigated in the human subject by the employment of an instrument which Dr. Hénoque, of this city, has invented, and styled the hématoscope.

When one of the finger-nails is placed in the focus of this instrument, the circulation of the blood within the vessels can be distinctly seen, and the changes noted which occur from the union of the oxygen supplied by respiration with the red globules of the circulatory fluid, *i. e.*, from the transformation of venous into arterial blood. Hénoque calls this process *la réduction de la Oxyhémoglobuline*, and by its instrumentality he is enabled to measure accurately the energy of tissue development and metamorphosis, or, in other words, to determine the true status of the nutritive function.

In order to ascertain the influence exerted by the ascension of altitudes upon the function of nutrition, he has utilized the Tour Eiffel and his newly invented instrument, the hématoscope, with results which may be thus stated:

1. The activity of the nutritive function sustains an inverse ratio to the rapidity with which ascensions are made.

2. The ascension of heights by stimulating nutrition is in itself a remedy for such maladies as are characterized by an impairment of that function.

3. The altitude which stimulates the nutritive function to the greatest extent compatible with health can be readily determined by the hématoscope.

4. The Tour Eiffel may be regarded as something more than an engineering triumph, for it is susceptible of a division into health stations for persons suffering from an imperfect performance of the nutritive function.

As this is the first occasion since the erection and destruction of the Tower of Babel that an occasion has been furnished to the human mind for the indulgence in speculations of this character, it is impossible to determine in the premises how much of truth is embodied in them, and only subsequent investigation can solve the problem satisfactorily.

Unfortunately, science had no existence when Shem and Japheth provoked the anger of Heaven by their attempt to reach the skies and to provide against the terrors of another deluge; and there is consequently no record of what occurred in their vessels and tissues, or any attempt upon their part to employ the tower which they built for the elimination of pathological facts and therapeutical laws.

That the constructors of Babel suffered from no disturbance of the nutritive function, but, on the contrary, were a healthy and vigorous race, is incontestably established both by the circumstances under which they labored and the work which they accomplished; for, being the pioneer builders of the world, they had to elaborate a system of engineering for themselves, and to originate as well as construct such scientific instruments and mechanical contrivances as the exigencies of their tasks required. And yet, though thus handicapped, they triumphed over the difficulties of the situation, and erected a tower the base of which measured a mile in circumference, and which, according to the authority of St. Jerome, had already attained a height of four miles when the Lord arrested its progress by confounding the tongues of its builders and scattering them over the face of the earth.

How true it is that there is nothing new under the sun! Even the mighty structure which now looms up so majestically from the Champs de Mars, and which Frenchmen regard with such pride and admiration, had its prototype and paragon in the tower which the progeny of Noah built upon the plain of Sinah when the human race still wore its swaddling clothes, and art and science were yet unborn.

The Congress which recently assembled in this city to discuss the subject of tuberculosis, adjourned after quite an exciting session without having accomplished much more than the laboring mountain of the fable, the only difference being that *aharbos* instead of a ridiculous *mus* was brought forth by it.

Many etiological and therapeutical theories were advanced by individual members, but the Congress only committed itself to certain doctrines of contagion—which may be thus epitomized: Tuberculosis is essentially a contagious disease, and is usually propagated by the instrumentality of bacilli; the cow is the most prolific source of tubercular bacilli and is consequently the principal agent in their dissemination; the most effectual method of ensuring protection against tuberculosis is to cook meat thoroughly and to boil milk before consuming them.

That tuberculosis is susceptible of development by contagion is established, not only by clinical testimony, but by the fact that it has been produced both by inoculation, and by the employment of meat infected with tubercles, but that this is its ordinary mode of propagation or that it is a contagious disease in the same sense as variola and scarlatina, will hardly be admitted by the profession; simply upon the *ipsi dixit* of a convention, however intelligent or conscientious its members.

That the cow, which has heretofore been regarded as man's most useful friend, should suddenly have been pronounced his deadliest foe, —the source of one of the most fatal of the diseases to which he is subject—is certainly an astounding circumstance, especially to those who have been accustomed to regard milk and beef tea as invaluable auxiliaries in the treatment of disease. Not only is strong positive testimony essential to the establishment of such a proposition, but it must likewise be shown that, contrary to preconceived opinions, the liberal use of these articles by physicians has tended to increase the death rate among their patients, and that tuberculosis is most prevalent in those countries whose people consume them in largest quantities.

To over-cook meat and to boil milk is to render them, not only more difficult of digestion, but less nutritious—to subtract, in a word, from their supporting properties as food; while an immunity against disease, especially tuberculosis, is best secured by maintaining the strength of the human organism. Hence, it follows that the Convention has proposed a measure for averting the development of tuberculosis, the direct effect of which, must be to invite it.

The action of the Convention in this regard was not only a mistake, but a misfortune. In no other affection is good nursing more of a desideratum, both as regards the physician and the patient. It strengthens the hands of the one, while it mitigates the sufferings and prolongs the life of the other, and whatever interferes with it is *ipso facto* illogical and inhuman. To teach that an absolutely deadly disease is essentially contagious, is to inspire a terror of it which must necessarily preclude that constant and intimate surveillance—those assidious personal attentions—upon the part of friends and attendants which the necessities of the case so imperatively demand.

Though to Koch is undoubtedly due the credit of having discovered the tubercular bacillus, and of throwing more light upon the subject of tuberculosis than any other investigator, he failed to be present on this occasion, and the discussion was conducted without him—a circumstance which forcibly recalled the play bill which is said to have announced the tragedy of Hamlet, the character of the Prince of Denmark being left out. This, however, was not the fault of the Congress—for all civilized nations were invited to participate in its proceedings—but of the pathologist himself, who, in common with his compatriots in general, is still dominated by the animosities engendered by the war of '70, though society and humanity have commingled their voices for nearly twenty years in an appeal for forgetfulness and fraternity.

Notwithstanding the time and labor which have been devoted to this subject, it still requires elucidation. Instead of dead and inert bacilli, such as alone have been revealed by the microscope up to the present moment, living and acting ones must be found, investigated and understood in order to determine their real rôle in the development of tuberculosis, and to decide whether or not a new therapeutical system is one of the necessities evolved by their discovery. Should it be decided that these bacilli are the essential factors in the propagation and perpetuation of the disease, then, the plan of treatment which has heretofore received the sanction of the profession—the *repetoire* of blisters, setons, cauterizations, plasters, nauseating nostrums and comfortless journeys by sea and land which has so long been in vogue—must give place to some agent or condition or their combination which is at once capable of destroying the offending microbes and of preserving intact the involved tissues and the threatened organism. In the solution of these problems the best interests alike of humanity and of medicine are involved, and it is to it, that the profession should direct its attention, to the exclusion of the comparatively unimportant side issues in which visionary enthusiasts and ambitious pretenders have so delighted to indulge.

The most prominent of the American delegates was unquestionably Dr. R. C. M. Page of New York. Belonging, as his name indicates, to one of the oldest families of Virginia—the home of blue blood and true chivalry—he had already distinguished himself at home by the exhibition of the best qualities which make up the character of a real gentleman and a good physician, and he sustained this reputation abroad in a way which secured for him, in a pre-eminent degree, the sympathy and respect of all with whom he was brought in contact. Had a majority of his colleagues possessed an equal amount of good sense, and appreciation of the true situation, I should now have the pleasure of chronicling more results from the meeting of the Convention than a dogmatical assertion of the essential contagiousness of tuberculosis and an intemperate crusade against the cow.

Dr. Seé recently presented to the Academy of Medicine a paper on the treatment of aortic aneurisms, which has attracted much attention. He states that within a period of twenty-five years, he has encountered one hundred and twenty-four cases of aortic aneurism—twenty-four of which he was able to observe through a succession of years, so that he claims to speak by authority on the subject. One of the first facts which attracted his attention was the frequency with which such aneurisms become tuberculous, and he accounts for it by supposing that microbes find their way to them, and induce within them, what he styles endoartritis just as they are known to reach the heart, and to provoke within it, endocartis. He believes also that, when aneurisms have thus become tuberculous, they serve as foci for the distribution of bacilli to contiguous organs, especially to the lungs, where they rapidly multiply in consequence of the imperfect oxydation of the air in the pulmonary alvioli.

He is decidedly opposed to surgical interference, but has great confidence in the internal administration of iodine, an agent, which according to his testimony, possesses the triple power of controlling the development of aortic aneurisms, of impeding their progress, and of protecting them against invasions by bacilli. He prescribes iodide of potassium in doses of ten grains three times daily, at the commencement of meals, and continues it until the stomach rebels or iodism is induced.

For the pains which accompany this disease and as a regulator of the heart's action, he employs antipyrine, and with a success which is phenomenal.

At a subsequent meeting of the Academy of Medicine, Dr. Constantine Paul took occasion to express his views on the subject. He believes in surgical intervention, and employs long and fine Japanese needles, several of which are introduced, and left in situ for a few moments at intervals of three days, until the sack has became too hard to admit of their employment. Under the influence of the inflammatory action thus provoked, the aneurism gradually diminishes in size, and the danger of rupture is averted.

Dr. Dujardin Beaumetz, in commenting upon the antagonistic views of Dr. Seé and Dr. Paul, agreed with the former as to the wisdom of rejecting surgical measures, and of relying upon iodine. He has special confidence in iodide of potassium, which he gives either in beer, coffee or milk in order to render it less repulsive to the stomach and thereby to ensure for it a more protracted exhibition. He, however, prefers panacétine both to antipyrine and to antifibrine, because it is equally potent in its effects and less dangerous in its consequences.

Dr. Pétrasco the well known therapist, has reported to the Academy of Medicine, one hundred and seventy-seven cases of pneumonia, with a death-rate of only 1.22 per 100, which were treated by remedies not ordinarily employed in that disease. In simple cases he relied exclusively upon digitalis, giving it in the form of an infusion —prepared by steeping 4 grammes of the leaves of that plant in 200 grammes of water and 40 grammes of simple syrup—in tablespoonful doses every half hour, with the result of habitually strangulating the disease in from two to three days.

In complicated cases, he found digitalis less efficient, and he was constrained to substitute chlorhydrate of caffeine and the extract of convallaria majelis—which in doses of two grammes in every twenty-four hours usually proved efficacious in from ten to fifteen days.

The high rate of mortality which has characterized pneumonia for the last few years, especially in the United States, has rendered it at once the oproprium of medicine and the terror of the public. Seeking its victims in the highest ranks of society and where circumstances seemed most favorable for its treatment, it has, as a general rule, defied medical skill, and marched with unfaltering step to a fatal issue. A new therapeutical departure has therefore become a necessity, and however much the remedies suggested by Pétrasco may contravene existing prejudices, the extraordinary success which has attended their employment by him justifies a recourse to them by the profession generally.

Besides, the tolerance of the system for digitalis is an established fact. Trousseau long since testified to it in other connections, and the treatment of delirium tremens by heroic doses of this drug is well known to the profession. In America, where the malarial element plays so important a rôle in the clinical history of every disease, and especially in pneumonia, as Fenner, La Roche, Dickson, and other writers have demonstrated, I am convinced that quinine would prove a valuable adjunct to Pétrasco's method of treatment.

Apropos of digitalis, I must mention that Huchard of this city has just published a *brochure*, which enunciates some new and important views respecting it. According to him it is neither *per se*, a depressor nor a stimulator of the heart, but a regulator of that organ—dimishing or increasing cardiac action according to the circumstances of the case. Hence it is that this drug may be advantageously administered in cardiac diseases of directly opposite character, with the effect of restoring the circulation to its normal status, whether the indication demands the employment of a rein or a spur—to speak figuratively. He, however, believes in the danger attending the cumulative action of the remedy and is influenced in his employment of it by an apprehension of them. Consequently, he advises that it should only be given consecutively for a week or ten days, with an interval of at least double that period. By these alternations of administration and suspension he produces and perpetuates the desired regulation of the heart, without the development of the toxic effects which it is capable of inducing, if incautiously prescribed. In a word, he considers digitalis an especially valuable servant, and an equally dangerous master—its value being enhanced by the ambidextrous qualities which have already been attributed to it, and its dangers increased by its capacity to conceal its strength, while husbanding it for a supreme manifestation at an unexpected imoment.

Pars is agog with a new discovery. For several months Pasteur had disappeared from the public gaze and rumor had reported him as being a helpless invalid, but on the 20th of August last, he appeared in his seat at the Academy of Sciences, smiling, rejuvenated and pregnant, as the sequel proved, with an important communication. So soon as the session had been declared open, he rose to his feet and said: "I appear here to-day, Mr. President and gentlemen, to add other proof to the reliability of my experimental method of investigation, by reading a letter from Dr. Gamelea, a former pupil of mine, but now in charge of the anti-rabie institution which the Russian Government has established at Odessa, in which he claims to have discovered a method of rendering by inoculation the human system refractory to Asiatic cholera, and requests that a committee be appointed by this Academy to test in my laboratory the merits of his discovery. He furthermore proposes to inoculate his own person and to demonstrate the reliability of his method of protection by exposing himself to the infection of cholera in any country where it may be prevailing as an epidemic."

He then proceeded to read the paper—into the details of which I do not propose to enter, as your readers will be thoroughly conversant with them long before the publication of this letter—and concluded by saying: "I freely offer him the use of my laboratory for his experiments, and I move that a committee be appointed for the purpose of investigating his alleged discovery, and that his name be sent to the commission in charge of the Brémont prize as a competitor for the one hundred thousand francs which are to be awarded to the discoverer of an effectual method of preventing or curing Asiatic cholera."

This motion was cordially received, and unanimously voted by the Academy; while the gallery, catching the inspiration of its example, applauded to the echo. Since then tout Paris has developed an unprecedented enthusiasm in regard to the Russian and his alleged discovery, and it has become *la mode* to propose to submit to a microbe inoculation in order to test its efficacy as a preventive against cholera —not a single case of which exists upon the continent of Europe. The daily papers, in fact, teem with such propositions, emanating from all classes of the population, but especially from journalists and artists, who in thus aspiring to martyrdom in the cause of science and humanity have of course no thought of the gratuitous advertisement which they thereby succeed in securing for themselves.

You will doubtless recall the experience of Ferran, the young Spaniard who claimed in 1886 to have made a similar discovery. He, too, asked for a committee of investigation, volunteered to vaccinate and expose himself to the infection of a prevailing epidemic, and became a competitor for the Brémont prize. But, though fortified with statistics to prove that his method of protection had succeeded in several thousand instances, and that through its instrumentality Spain had been freed from the scourge, he was pronounced either a dreamer or a pretender, and his claims to the title of a discoverer were ignored without the formality even of an investigation by the Academy.

But *tempora mutanter*, and Gamalea by shrewdly pandering to the pride of his master, and the vanity of the French people, has reached at a single bound the pinnacle of fame as a scientific discoverer, and become upon the strength of his own assertion, the hero whom savants and canaille alike delight to worship.

Into whose hands the Brémont prize is destined ultimately to fall, remains to be seen; for the French people, with all their excitability, sentimentality and vaingloriousness, are sensible and just, *au fond* and they are not likely to waste their honors and money upon those who are unworthy of them. So that the problem of preventing the development of cholera is really solved, they will not, upon sober, second thought, permit either preference or prejudice to influence their decision, but will tear down the idols they have worshiped, or rescue from oblivion those which they have ignored, and crown with laurels the true discoverer, whatever may be his name, nationality or antecedents. No more and no less can be asked of them, and you may rest assured that the world will be satisfied with their answer.

Though Pasteur has long been silent, his work has continued to speak for him, and in such terms as have confounded his enemies and filled the hearts of his friends with pleasure and satisfaction. From the first day of the opening of his ante-rabie laboratory, up to the present moment, it has been crowded with patients from every quarter of the earth, and it has supplied the means by which thousands have been saved from suffering and rescued from death.

Assured of the inherent truth of his system of protection against hydrophobia, by the testimony of the most carefully collected statistics, he has labored with unfaltering zeal to extend and perfect it, and he finally sees his way to the consummation of his fondest hopes in these regards. The task upon which his energies are now concentrated is the complete stamping out of rabies itself, by rendering the canine race refractory to it, and the selection of this important problem may be confidently expected in the near future.

In view of the incontestable advantages of Pasteur's plan of protection against hydrophobia, and of the fact that an anti-rabiec institution exists in every country of Europe, it certainly seems extraordinary that such an enterprise has not been undertaken in the United States, whose geographical position so imperatively demands it. But of this matter I shall speak on another occasion, having already exhausted the privileges of the present one. Until then, I must bid you adieu, with best wishes for the continued prosperity of your journal.

I am, very truly and respectfully yours,

EDWARD WARREN, BEY, M.D., C. M., LL. D.,

NEW BOOKS AND PAMPHLETS.

ATLAS OF VENEREAL AND SKIN DISEASES: Comprising Original Contributions and Selections from the Works of Dr. M. Kaposi of Vienna; Dr. J. Hutchinson, of London; Dr. I. Neumann, of Vienna; Drs. A. Fournier and A. Hardy; and Drs. Ricord, Cullerrier, Besiner and Vidal, of Paris; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York; and others. Edited by Prince A. Morrow, A. M., M. D., Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology, in the University of the City of New York; Surgeon to Charity hospital, etc. New York: William Wood & Company, 1888.

(*Continued from p.* 371.)

We had reached, in the consideration of this work, fasciculus IV. and we will go right ahead from this point. The plates in this number represent papular and papulo-squamous syphilide, scaly syphilide of trunk and right arm, papular and squamous syphilides of palms and soles, gyrate syphilide, psoriasis, condylomata lata and condylomata acuminata of genital region, mucous patches of vulva and anal region. All of the plates are good, though the extent of the coloring gives an idea of an amount of inflammation that is often not present. For example, the syphilide of the sole of the foot looks much more like a deep ulceration late in syphilis than a papular or squamous syphilide early in that disease. The papilloma non-syphiliticum (fig. 1, plate xix) is an excellent representation, though the fact that the glans penis is so little involved might lead an observer to think that this part was not often attacked in this way. The mucous patches on the scrotum are not quite so numerous as they are apt to be found and we hardly think that they give a sufficiently good idea of the reality to enable a man who had never seen them to make a diagnosis by comparing the lesion he had to diagnose with the plate; and this is, we believe, the ideal to be attained in these representations. Kaposi is again the source of the illustrations.

Fasciculus V. is taken up with the pustular syphilide in its various manifestations. The plates are carefully worked out and are generally satisfactory. Neumann, Kaposi, and Ricord are the sources of illustration.

Fasciculus VI. presents plates of tubercular syphilide, serpiginous syphilide, ulcerative gummata, serpiginous ulcerous syphilide, and ulcero-gummous syphilide. We have not the time nor space to consider each plate, but can say that we find them well up to the standard of the others.

Fasciculus VII. closes the venereal series with a consideration of syphilis of mucous membranes, of the nails, of bones and finally hereditary syphilis. The text hardly does full justice to the last named subject, and the cheap plain lithograph of syphilis of the bone is hardly in harmony with the rest of the work. Whether haste in getting out the number and thus completing the veneral part is to be charged with this or not, can only be a matter of speculation. At all events it would have given a nicer finish to the whole work to have completed it in every way up to the high standard maintained throughout the rest of the atlas. An appendix on the treatment of syphilis completes the text of this part and a formulary in which the uninformed may wallow to their heart's content. We may properly now sum up in a few words our estimate of the venereal part as a whole. The work has been conscientiously and thoroughly done by the editor and publishers. The text is fuller and better than we would have expected and, for the most part, as good as we would have demanded. Indeed it almost seems a pity for A. Morrow to have taken so much trouble with the text, when so few people will study the text of any atlas. The ground covered is extensive and the illustrations are chosen with much tact and skill. Perhaps better ones could here and there be substituted though the whole effect is highly satisfactory. We can only add that, we can heartily commend the work to any man desirous of having excellent plates covering the large field of syphilis in its varied manifestations. We must reserve until our next issue the consideration of the first number of skin diseases.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. A Yearly Report of the Progress of the General Sanitary Sciences, throughout the World. Edited by Charles E. Sajous, M. D., Lecturer on Laryngology and Rhinology in Jefferson Medical College, Philadelphia, etc., and Seventy Associate Editors, assisted by over Two Hundred Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. 1888. Philadelphia and London: F. A. Davis, Publisher.

"The object of the 'Annual of the Universal Medical Sciences' is to collate the progressive features of medical literature at large and clinical data from countries in which no literature exists, and to present the whole once a year in a continued form prepared by writers of known ability."

The scope of this work is ably stated in the above quotation. A careful perusal of many of the articles and general review of the whole convinces us that the editor has faithfully and conscientiously performed his self-imposed duty. Especially is the feature of collecting clinical data from countries in which no collated literature exists, to be commended. There is little doubt that many a careful and acute observer dies with his mind in him by virtue of omitting to publish his notes and observations. This annual must have an influence toward drawing forth much information from sources heretofore not recognized or known. Moreover, it will in all probability stimulate the ambition of the whole profession to add each his quotum to the gradually accumulating mass of scientific facts. The editor has clearly defined the difficulties which he and his associates have to encounter to produce the series annually. From the nature of the work it is evident that he has in no wise exaggerated the difficulties of the task. The co-operation of writers of known ability and distinction in their several branches assures in each case an intelligent review of the work done in each branch during the year. There is a strong inclination in reading these volumes to forget that they are a resumé of the new publications that have appeared in different departments of medicine during *a year.*

The benefit of such an index as the editor refers to in his preface, should not be under-estimated. It enables a man in a few minutes to have under his fingers all that has been written on a given subject in twelve months. The great difficulty in drawing proper conclusions in medical questions arises from the fact that all the data in given cases are not at hand. The index arrangement has been made with a view to this, and we repeat it has been accurately and methodically done. The irregularity with which the articles have been assorted is striking, but ample explanation of this has been made by the author when he cites as its cause the irregularity with which the contributions were received. We cannot keep from dwelling upon the arduousness of such a task as the annual appearances of these volumes entails.

It stands as a monument to the enterprise and faithfulness of this editor, his associates and the profession at large. We deem criticism of the individual articles out of place here, as they consist simply of a resumé of what has already been placed in detachment before the profession.

THE UNIVERSITY MEDICAL MAGAZINE. Edited under the auspices of the Alumni and Faculty of Medicine, of the University of Penn.

The *Raison D'être* of this magazine is the desire on the part of the University of Pennsylvania to have a means of keeping the alumni of the University more closely "in touch" with their Alma Mater.

At the present time, when every little enterprise must have an "organ" the cause of journalism is greatly hampered and impeded; and we notice with regret that the great University of Pennsylvania can think of no other means of keeping her alumni "in touch."

A great banquet once a year would probably have accomplished it better and have been far more agreeable to the alumni, most of whom, no doubt, are in the habit of receiving regularly the standard medical periodicals of America. All medical men of real intelligence should discourage the increase of small medical journals. Each one serves to distract the flow of scientific knowledge from the proper channels, and thus to distinctly injure medical periodical literature in this country.

But however this may be, the University magazine is now an established fact and it is only left to us to wish it God speed, which we do very cordially.

A TEXT-BOOK OF HUMAN PHYSIOLOGY. By Austin Flint, M. D., LL. D., Professor of Physiology and Physiological Anatomy in the Bellevue Hospital Medical College, New York, etc., etc. With three hundred and sixteen figures in the text and two plates. Fourth edition entirely rewritten. New York: D. A. Appleton & Company, 1888.

We hope to give a full review later of this excellent work. It is as all students of medicine know, *facile princeps* of books written by American authors on this subject and compares favorably with any book of the kind by foreign writers. This new edition is rewritten and in every way abreast of the advances up to the present time in its field. The general arrangement is about the same, but the text is altered to no small extent. The fact that Dr. Flint has so long been and still is a teacher fits him especially for writing a book that can be read, studied and enjoyed by students and practitioners. We will try to give the work the consideration it deserves at another time.

LITTELL'S LIVING AGE. Littell & Co., Boston Mass.

This charming weekly magazine comes to us always replete with the *crème de la crème* of the best literature of the day, gathered from the English periodicals such as the *Edinburgh Review, the Spectator, the fortnightly Review, Blackwoods*, etc., the well-known and best beloved veterans in the field of literary journalism. It is only $8.00 a year and no one could invent a more useful and entirely delightful way of spending this sum than investing it in a year's subscription to Littell's.

PHYSICIANS' INTERPRETER IN FOUR LANGUAGES. Specially arranged for Diagnosis. By M. Von V. F. A. Davis, Publisher, 1231 Filbert St., Philadelphia, Pa., 1888.

A little pocket book, nicely gotten up, giving (to a man who already knows anything of the languages,) the French, German, and Italian equivalents of many questions asked in examining a patient. The most useful thing about the book is the fact that it gives a vocabulary that a man would not have acquired from a general acquaintance with these languages.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE. United States Army. Authors and Subjects. Vol. IX. Medicine (Popular)—Nywelt. Washington: Government Printing Office, 1888. Pp. 13—1054.

THE ACCIDENTS INCIDENTAL TO THE USE OF THE EXPLORING NEEDLE FOR DIAGNOSIS. By Herman M. Biggs, M.D.

THE ANOMALIES OF THE OCULAR MUSCLES. By Dr. Geo. T. Stevens, New York.

PAPILLOMATOUS CYSTIC TUMOR OF OVARY. By L. H. Laidley, M.D.

THE TRITURATION OF ALKALOIDS. By Èdwin Pynchur, M.D.

VESICO-VAGINAL FISTULA. By Reuben A. Vance, M.D.

SOME OF THE ADVANTAGES OF THE UNION OF MEDICAL SCHOOL AND UNIVERSITY. By Wm. H. Welch, M.D.

THE ELECTRO-MAGNET IN REMOVAL OF STEEL FROM THE INTERIOR OF THE EYE. By Alvin A. Hubbel, M.D.

ELECTRICITY *vs.* TAIT, OR THE USE OF ELECTRICITY. By Geo. Hulbert, M.D.

ELECTROLYSIS. By Eugene C. Gehrung, M.D.

WATER. By C. W. Moore, M.D.

ARE DIPSOMANIA, KLEPTOMANIA, PYROMANIA, ETC., VALID FORMS OF MENTAL DISEASE? By Orpheous Everts, M.D.

A CLINICAL STUDY OF THE ETIOLOGY AND TREATMENT OF SUMMER DIARRHŒA OF INFANTS. By Simon Baruch, M.D.

RECENT ADVANCES IN PREVENTIVE MEDICINE. By Geo. H. Robe, M.D.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF ARKANSAS.

ANNUAL ANNOUNCEMENT AND CATALOGUE OF MEHARRY MEDICAL DEPARTMENT OF CENTRAL TENNESSEE COLLEGE.

ANNUAL ANNOUNCEMENT AND CATALOGUE OF THE MEMPHIS HOSPITAL MEDICAL COLLEGE.

REPORT OF THE MURDOCK FREE SURGICAL HOSPITAL.

REPORT OF PROCEEDINGS; ILLINOIS STATE BOARD OF HEALTH.

PHARMACY AND THERAPEUTICS.

FORMULA FOR SACCHARINE.—M. Constantin Paul, at a meeting of the Therapeutical Society of Paris, July 25, 1888 (*Bullétin Médical*, August 19, 1888), said the following formula made a good elixir of saccharine:

℞.	Saccharine	ʒ iss
	Bicarbonate of soda	ʒ i
	Alcohol (at 40°)	f ℥ iii
	Essence of mint	gtt. xx

M. Sig. Coffeespoonful in a glass of water.

BURNS.—

℞.	Salol	grs. 37½.
	Lime water,	
	Olive oil, of each	drachms 2⅓.

M. Use as an ointment to the affected parts.—*Medical and Surgical Reporter.*

PHTHISIS.—Scholl prescribes as follows:

℞.

Creasote	1 drop
Iodoform	1-5 grain
Arseniate of soda	1-24 “
Cynoglossum	¾ “
Benzoin and Magnesia q. s.	

For one pill.

Sig.: Take two in the midst of breakfast and supper.—*Revue de Thérapeutique.*

A TEST FOR ACETANILID.—According to T. Salzer (*Ph. Ztg.*), is to dissolve 0.1 gms. of the substance in 3 cc. hydrochloric acid and add a little chloroform, when the mixture becomes turbid or milky, vanishing upon shaking, and after a time, white, glistening needles separate.

PRACTICAL OBSERVATIONS ON THE USE OF SULFONAL. (Drs. Rosenbach, Rosin and Oesterreicher, *Memorabilien*, *Heft* 2, 1888.)—Experiments in the clinic at Breslau were made by Dr. Rosenbach with the following precaution: The drug was given to the patients either without their knowledge, or with their concurrence and full knowledge of effect to be obtained. In the latter case it was followed on the next two or three days by doses of indifferent substances having a similar taste and appearance. For this purpose amylum in capsules or powder form was employed. Between the series of experiments with sulfonal and amylum, morphine and chloral hydrate were occasionally exhibited for the sake of comparison. The whole number of experiments was 274.

Sulfonal was given in 1, 2, 3 and 4 gram (15, 30, 45 and 60 grain) doses. A large number of patients who complained of sleeplessness slept well after taking but 1 gram. But almost all of them slept just as well on the succeeding nights on 1 gram of amylum. In none of these cases, therefore, could the psychical influence that the knowledge of the intended effect of the drug produced be excluded. Even those who, on the morning following the exhibition of 1 gram of the drug, declared they felt dizzy and confused, manifested the same symptoms after a similar dose of amylum. Two other patients who lay in the same room slept well after 1 gram of sulfonal, but vomited next morning. The same quantity of starch was given them the following night with exactly the same effect, so that they requested relief from taking the drug, as they preferred insomnia to nausea. In only two cases could patients who were not influenced by starch be put to sleep by 1 gram doses of sulfonal. No unpleasant after effects were noticed in those not psychically affected. The conclusion reached from this series of experiments was that *sulfonal in doses of* 1 *gram* (15 *grains*) *is an uncertain hypnotic.* The effect of doses of 2 grams (30 grains) was very different from the preceding. In these cases also parallel experiments were made with indifferent drugs, but here in a large series of cases starch powders and capsules had no effect, whereas sulfonal produced a sound sleep; in very few cases did it fail. Sulfonal was given in some cases in the morning after a previous good night's rest to robust men, who were told that they were taking a stomachic or anti-rheumatic; these were men who were not accustomed to sleep in the daytime; yet the effect was excellent, the patient sleeping from two to five hours; only those patients who did not remain abed, or who walked about in the garden, were not affected. There were no bad after effects after 2 gram doses except with those who were psychically affected—that is, those who also complained of the most *outré* symptoms after starch capsules, such as vertigo, dullness, headache and nausea. Only a small number complained of a feeling of dizziness; other symptoms, as headache, were never observed. Sulfonal was given to many patients with heart diseases without injurious effect.

The conclusion from this series of experiments was that *in 2 gram (30 grains) doses sulfonal is a certain hypnotic, which fails only in the rarest cases; there are no unpleasant symptoms following its use.* In its hypnotic power 2 grams can be compared to 10 to 15 milligrams (1/6–1/4 grain) of morphine, without the after effects of the latter. Sleep occurs in from one-half to one and one-half hours after ingestion. This dose has a decided effect on the sensibility of the bronchial mucous membrane. It was given to a large number of tubercular patients who were prevented from sleeping by their irritating cough. Although a number of these slept well, and felt a diminution of bronchial irritation after the starch powders and capsules, a still larger number obtained no relief except from the sulfonal. Many others did not obtain sleep and relief from 2 grams, but only after 3 grams of sulfonal had been taken. One-sixth of a grain of morphine was more effective in preventing bronchial irritation than even 3 grams of sulfonal. There were no unpleasant after effects following 3 gram doses of sulfonal. When 4 grams (60 grains) were given, a deep sleep followed, lasting three to four hours in the daytime, or from eight to twelve hours at night.

The effect was much more powerful than that produced by 1/3 grain of morphine, or 2 grams (30 grains) of chloral hydrate. All patients awoke with a dull, dizzy feeling, which often continued throughout the day. On the night following the patients generally slept better than usual. Bronchial irritation was allayed by this dose better than by a dose of 1/6 grain of morphine. Besides dullness and dizziness, no other after effects were noticed; but these effects last so long after 4 gram doses that such a quantity should only be given in extreme cases. Rosin's general conclusion is that *sulfonal in doses of 2 grams is a hypnotic not inferior to morphine, chloral and others, and by reason of its freedom from its after effects, even when 4 grams (60 grains) are given, is to be recommended in all uncomplicated cases of insomnia.*

Oesterreicher's researches agree with those of Kast and Rabbas, and may be summed up as follows: Sulfonal is an innocuous hypnotic followed by no inconvenient after effects. It does not influence the respiration, pulse, or kidney secretion even in cases of albuminuria. At present we cannot tell if disturbances arise after a protracted use of the drug. It deserves preference over amyl hydrate and paraldehyde, especially among the insane, owing to its being tasteless and odorless. Its effect is not absolutely certain, but is at least equal to that of chloral, to which it is to be preferred, owing to its safety even in heart affections; also because it produces no condition of intoxication or preceding excitation.

In the first days of abstinence from morphine it has as little effect as the three drugs just mentioned. After its use sleep follows in from one to three hours—later than after the use of the other drugs, but the sleep is continuous and sound. It is advisable to administer the drug several hours before bedtime.

In the present state of our knowledge we cannot tell if a sulfonal *habit* can be established. At any rate, it is not quickly established.—*Berlin Klin. Woch.; Internat. Rundsch.*

MISCELLANEOUS.

A Case of Corrosive Sublimate Poisoning.—At 10:30 p. m. on June 3rd, 1888, A. B. æt 24 years, single, came in breathless haste into my consulting-room carrying a bottle, which he declared was quite full before he drank of it ten minutes ago. He stated that the bottle contained a solution of mercury which he used in photography. My thoughts immediately turned to corrosive sublimate. He added, further, that he had drunk a pint of milk, at his housekeeper's suggestion, directly after drinking the fluid. On the bottle there was an illegible label, and the solution had large crystals in it, one of which I tasted. The crystal had the appearance and characteristic taste of perchloride of mercury. In the meantime, my brother, by means of ordinary emetics and copious draughts of warm water, washed out his stomach. It was thought prudent not to use the stomach pump here. I tested the solution with a crystal of potassium iodide, and the bright scarlet iodide of mercury was precipitated; with potash, the characteristic yellow color was formed. The white of four eggs was then administered. The patient was taken home to bed and put into hot blankets. The white of two eggs was ordered to be given every two hours; turpentine stupes to the abdomen.

General Condition.—Pulse 90; respirations 36. Metallic taste in mouth. Burning sensation, extending down the throat. Tongue and fauces silvery-looking. Did not vomit blood during the artificial emesis. Epigastric tenderness. No colicky pains or diarrhœa. The patient was under treatment in ten minutes from drinking the fluid. Slight collapse supervened in about an hour and a half.

At 7 a. m. the next day, he was passing bloody stools every half hour; burning sensation in throat was increased; great tenderness and pain all over abdomen. Collapse passing off. Tenesmus and colicky pains. A quarter grain morphine pill was exhibited every hour if pain were present. At 2 P. M. very little pain; the patient much improved.

On the 20th, the patient felt quite well and returned to work. I sent the bottle and its contents to Mr. W. Leach, F.C.S., of Bradford, who reports that the volume of fluid swallowed contained about one hundred grains of corrosive sublimate. Pytalism and suppression of urine were altogether absent. The recovery of the patient shows that with corrosive sublimate, however large the dose may be, if it be promptly removed from the stomach, the prognosis is very hopeful.—SAMUEL LODGE, M. B., M. S. Dunelm. Bradford.

ON SUCTION IN THE REMOVAL OF FOREIGN BODIES FROM THE BLADDER (By Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.)—I do not think the value of this method of removing foreign bodies from the bladder is fully appreciated. Formerly, for the extraction of pieces of bougie, slate pencil and bodies of this shape, I was in the habit of using the lithotrite as an extractor, and I have published several cases where this instrument proved to be efficient when the foreign substance had not been largely encrusted with phosphates. The chief difficulty connected with the use of the lithotrite under these circumstances is the fact that the foreign body is invariably seized at right angles with its long axis, and that it is necessary to get hold of an end before extraction along the urethra can be effected without damage to the parts. More recently I have discarded the lithotrite as an extractor, and trusted to a large-eyed evacuating catheter, such as I use for lithotrity, and a rubber wash-bottle connected with it, by means of which I can fill and empty the bladder with a stream of water of considerable force. When we consider that most foreign bodies introduced into the bladder are of an elongated nature before they become nuclei for stony concretions, this method of removing them at once commends itself to us. The evacuating catheters I employ have a large eye. If a rubber bottle is attached to them and a stream of water is forced into and out of the bladder, it will be found, as a rule, that the end of the foreign body is sucked into the catheter, and in this way may be withdrawn.

One of my recent cases was a curious one, and was seen in consultation with Dr. Robert Roberts. A middle-aged healthy man, a month previously, passed a piece of bacon rind about two inches in length up his urethra, which disappeared. Not feeling satisfied with this strange exploit, he introduced, a week afterwards, up the same canal, a stiff pig's bristle about five inches in length, which also disappeared. Ten days before I saw him he felt a severe pricking sensation, and at once confessed his indiscretions to his medical adviser. When we saw him in consultation I passed a soft instrument down his urethra, and distinctly felt something in the prostatic urethra, which I pushed backwards into the bladder. As I felt so doubtful as to the man's statement, I employed a small lithotrite, with which I felt something I could not hold. I then passed a large-eyed evacuating catheter into the bladder, and attached a powerful rubber syringe to it, such as I use for the removal of stone fragments after lithotrity. After a few movements of the syringe I felt that I had engaged something in the eye of the catheter, and on withdrawing the latter, the bristle, beautifully coated with phosphates, came with it. Of the bacon rind I neither felt nor heard anything more. These manœuvres were quite easily carried out on my consulting-room sofa without an anæsthetic. Some weeks previously I had removed a piece of gum-elastic bougie (No. 6), three inches in length, in the same way. To commence with, I felt, as the water current was being ejected, the bougie struck against the eye of the catheter with its long axis, and was therefore not caught. I distended the bladder with another syringeful of water (four ounces), when at once the end of the bougie became impacted in the eye of the evacuating catheter, and was withdrawn like the bristle. The additional amount of water permitted the bougie to rotate in the bladder. Still more recently, by the same process, I dislodged a renal calculus which I believe was impacted in the orifice of one of the ureters, where for some weeks it had caused much irritation.

TREATMENT OF MASTITIS.—The treatment of mastitis is often one of the most troublesome things a country physician has to deal with, and all because he is not at all times on the lookout for contingencies of this nature. Abscess of the mammary gland, or "gathered breast," is an expression which strikes terror to the hearts of the young practitioners, and for this reason we have thought it advisable to say a few words upon the subject, thinking that by following the suggestions advanced all trouble of this unpleasant character may be avoided. Before indicating the prophylactic treatment it may be as well to point out what is to be done when it is impracticable to carry out the treatment to its full extent. In the first place, avoid poultices, even as you would the microbe of cholera if you chanced to meet one in the street. Shun counter-irritants and all local applications, except such as may be indicated for the relief of pain for the time being, but under no circumstances as a course of treatment. They are all bad, and if possible one is worse than the other. If one local application is used the doctor will soon begin to wish he had used another. Give the appropriate remedy, and adopt the plan followed out by Dr. Garrigues, as advised in his work, "Antiseptic Midwifery," presently to be referred to, and it will probably be the last case of the kind you will be called upon to treat for a long time. Cases of the kind may come to you from your brother practitioners, but you will probably never have another of your own—"a consummation devoutly to be wished for." The remedy is the sulphide of calcium, one-tenth of a grain every two hours, when the patient is awake, and when the time arrives it should be lanced, but never poulticed. Under this treatment, along with compression, all signs of inflammation will disappear in less than a week, and this is more than can be said of any other treatment so far as known at the present time. If any of our readers can show better results than that we shall be delighted to hear from them.

The plan as carried out by Dr. Garrigues consists in the immediate application of what he calls a "breast-binder," as soon as there are any signs of inflammation in the gland, and he asserts that in the course of a few days the difficulty all disappears, and gives as his record in the treatment of confinement for the period of six months at the Maternity Hospital, New York, two hundred and thirty-six cases and not a single abscess. The directions for making and applying the breast-binder are as follows: "Take half a yard of muslin, one yard wide. Cut out a small segment corresponding to the nape of the neck, and a larger, pear-shaped piece for each arm. The breast-binder is placed under the patient's back down to the waist, where it meets the belly-binder. Both breasts are brought well upward and inward. A piece of cotton-batting is inserted between the breasts. The patient holds these herself, while the nurse draws the ends of the binder rather tightly together and fastens them in the middle line with a row of pins, going from below upward. At the upper end a V-shaped opening is left free, and each anterior flap brought up over the shoulder and pinned together with the corresponding short flap of the posterior part of the binder. Thus the breasts are lifted up and evenly compressed. If there is a superabundance of milk the binder is tightened so much more. In such cases a small hole is cut in it corresponding to the nipple, so that the pressure is kept up without interruption. In common cases, when the child is to be applied to the breast, the upper part of the binder is opened in the middle line, and pinned up again as soon as the child has finished."

TETANUS AFTER MISCARRIAGE.—The patient, a married woman, æt. 27 years, was small, thin, and delicate, having suffered from painful ovaries. She had had two children and four miscarriages.

On September 25, 1882, a miscarriage at three months took place. All went well for three days, when the temperature rose to 102° F. at night. This was found to be due to the presence of a small portion of very adherent placenta, partially decomposed, in the uterus. Under chloroform it was removed, the os having to be dilated by the fingers. The temperature that evening rose to 104°, but was normal the next morning. On October 2d, two days after its removal, stiffness of the back of the neck was complained of. Next day the teeth could only be slightly separated, the masseters being hard and contracted. Spasms on drinking, slight opisthotonos, and the risus sardonicus succeeded in the order mentioned. Severe and painful spasmodic contractions of the muscles of the back occurred frequently. The patient could swallow only while under the partial influence of chloroform, but later on even this was impossible.

On October 4th a severe general spasm occurred, followed by others. The temperature rose to 102°, and death soon followed. No necropsy could be obtained. Treatment: Chloral hydrate, gr. xx every three hours; frequent inhalation of chloroform, and nutrient enemata.—T. G. PARROTT, M. R. C. S., L. R. C. P., in *British Medical Journal.*

PARIS DOCTORS AND SIGNS.—The Paris correspondent of the *New York Med. Journal*, September 1. 1888, says: One of the rather curious facts in regard to medical customs in France is the difficulty a stranger has of finding a physician's house, notwithstanding the fact that Paris has as large a proportion of physicians as any other city—not excepting some American ones. The greater number display no sign, and when you know that in Paris one house is as like another as two peas, it is easy to imagine the trouble of finding the right house when on the search for a doctor. Not only is there no "shingle" on the front door, but there is not one even on the door leading to the office—not even a card to show the stranger who lives in the *apparte-ment.* We were told the other day of an American's search for a celebrated French specialist's office. He had the world-wide known name well enough, but could not pronounce it as they do here. However, by writing it, he found the boulevard, and, fortunately, he had the right number, but here again his troubles began, as he did not understand the polite "concierge's" instructions as to which floor the doctor occupied. Nothing daunted, our Yankee friend mounted the stairs, hoping to find at least the family name on a little silver plate on the door, but, alas! after mounting seven flights he could see no sign. Determined not to be beaten, however, he wrote the name on a paper, and, commencing at the first floor again, he conscientiously rang at all the doors until he found the right one. Among all the thousands of physicians who practice in Paris, *not one*—except the English and Americans who practice here—has his name on his own door, nor on the street door. Among the cheaper class of physicians will be found a small sign saying: "*Docteur en mèdecine de* 1 *à* 3 *heures*," but no name is given; and as to the better class, not the slightest indication is given that they live in a house. It is a curious Parisian custom.

TWO or three cases in Medico-Legal medicine are of interest to obstetrical practitioners. In one of these, before a Minnesota court, a person shot and killed a dog near the residence of the plaintiff. The wife of the plaintiff was near by and saw the shooting, although she was not seen by the sportsman. It appeared that the lady thought the gun was aimed at her, when in fact it was aimed at right angles to the direction in which she was.

As a result, she was greatly frightened and suffered serious injury, being in a state of pregnancy. The husband then brought an action for damages, but the court ruled against him. Persons are usually in law held responsible only for the immediate and direct results of their acts, and the judge said that "it is very clear to us that the killing of this dog was in no sense the proximate cause of the injury to the plaintift's wife. The act in itself was not a tort of any kind against the plaintiff, as the dog was not his property. The injury to the woman would have been presumably the same whether the killing of the dog was lawful or unlawful, and whether the defendant had fired at the dog or at a bird in the air. If the acts of the defendant amounted to any tort, which, in any possible view of the case, could be held to be the proximate cause of the injuries complained of, the gist of it must be negligence in shooting in such proximity to a human residence as might naturally and reasonably be anticipated to be liable to injure the inmates by fright or otherwise. We are by no means prepared to say that, upon the evidence, a verdict for plaintiff could be sustained even on that ground." A case in an Illinois court was cited where it appeared that a pregnant woman was injured by fright caused by a quarrel between her husband and another person, neither of whom knew of her being near. The court in this case said: "It would be a very inconvenient rule if a man could not indulge in a quarrel with a married man without first making sure that his wife was not in hearing and not in a state of pregnancy."

In another late case in Wisconsin a pregnant woman was arrested, and when in prison some months later gave birth to a child. The physician in charge did not notice anything peculiar in the child at the time, but a year and a half afterward found it to be defective in the brain, spinal cord, and nervous system. In an action for wrongful imprisonment it was sought to be shown that the condition of the child was owing to the shock felt by the mother on account of her arrest, and the testimony of the physician was very important in substantiating this theory. The court held, however, that the physician's testimony was improperly admitted, except as to the facts of the child's condition; that he should not have been allowed to have given his opinion that the condition of the child was caused by the nervous prostration of the mother during her pregnancy, especially as he noticed nothing peculiar until nearly two years after birth.

The physicians and clergymen in New York must now observe the laws regarding the proper record of births and deaths, or else suffer fine and imprisonment. The health authorities say that there is great neglect in sending promptly to the Bureau of Vital Statistics the information demanded by the laws, especially in cases of births; and it is intended to arrest a few of the offenders if a change is not made at once. There is no question but that a trip to the police court would prove a very convincing argument to many who now think they have no time to fill in birth-blanks.

MEDICAL NEWS AND NOTES.

COCAINE IN HYDROPHOBIA.—Dr. S. Fubini, of Palermo, has recently reported a case of hydrophobia in which local applications of cocaine gave marked relief to the characteristic spasms of the throat. The man had been bitten on the hand by a mad dog six months before. Three of his companions, who were bitten at the same time, had their wounds promptly cauterized, but the patient thought his too trifling to require attention. He was the only one in whom hydrophobia supervened. The spasms of the larynx and pharynx were extremely severe and painful, and the patient, though suffering from burning thirst, could not bear the sight of liquids. Dr. Fubini brushed the pharynx with a one in twenty solution of hydrochlorate of cocaine, with the result that the spasm almost immediately ceased, and the man was able to drink without the least difficulty. There can be no doubt that the case was really one of hydrophobia ; all the classical symptoms of the disease were present, and subdural inoculations of the patient's medulla in rabbits produced well-marked rabies in those animals. The case shows the value of immediate cauterization of bites, as well as the utility of cocaine in relieving symptoms.

PHYSIOLOGICAL ACTION OF IRON.—In a preliminary note in the *Vratch*, No. 29, 1888, p. 561, Dr. Skvortzoff publishes the results of experiments on dogs, carried out by him in Dr. L. J. Tümas's Pharmacological Laboratory, in Warsaw, with the view of determining the action of iron on nitrogenous metabolism in a healthy organism. The following are his conclusions : 1. Iron has no marked influence on the nitrogenous metamorphosis in a healthy system. 2. On the internal administration of iron in daily doses over 0.02 or 0.03 gramme, the assimilation of the nitrogenous ingredients of food decreases, though but slightly (from 98.4 per cent. before the experiment to 97.0 per cent. during it). 3. After venesection the assimilation somewhat increases, both on the administration of iron and without it. 4. On the administration of iron with food after venesection, the restoration of hæmoglobin proceeds more rapidly than without iron. 5. The same holds true in regard to the body's weight.

EXTRAORDINARY VITALITY IN AN OLD WOMAN.--Our attention has been called, by Dr. John W. Ogle, to the following remarkable instance of endurance in old age, which was recently recorded in a French newspaper. It is of some interest, in connection with a case of extraordinary vitality in a child which was related not long ago in our columns, by Dr. W. A. Thompson, of Ampthill (*Journal*, August 25th, p. 462). A widow, æt. 81 years, was found in the forest of Fontainebleau, where she had been for six days and nights without any shelter but the trees. The weather at the time was very wet and cold, and the old woman had no food whatever, except a few mushrooms. She is of feeble intellect, and could give no account of herself, but it appears that she was in the habit of going out every day for a walk, and it is supposed that on this occasion she had wandered farther than usual and could not find her way home. When found, she was in a very serious condition, but her medical attendant, Dr. Girard, was by no means hopeless of her recovery.

ABSORPTION OF THE LIQUOR AMNII.—Dr. Torngren, of Helsingfors, describes in the *Archives de Tocologie* for August, 1888, a series of experiments made in the Pathological Laboratory of the Paris Faculté de Médecine to determine the channels by which substances contained in the liquor amnii return to the maternal circulation. He finds that, in the rabbit at least, absorption of the liquor amnii by the maternal vascular system continues throughout gestation. This absorption is effected either by the placenta or by the membranes. The gastric mucous membrane of the fœtus at term can absorb, but this absorption does not materially affect the changes between the liquor amnii and the mother's blood. Soluble substances contained in the blood of the mother pass into the liquor amnii generally through the placenta.

THE WATER SUPPLY IN JAPAN.—The construction of the new water-works at Yokohama, under the superintendence of General Palmer, R. E., was a formidable undertaking. The intake is about 25½ miles from the filtering beds, and the work was rendered extremely difficult in various places by the rugged and hilly nature of the country, which necessitated the opening of a temporary road, the erection of several bridges and the excavation of cuttings; but, in spite of all obstacles, the undertaking was completed within the specified time. The British Consul at Yokohama, in his report, anticipates that the health of the town will be greatly improved by the introduction of a plentiful supply of wholesome water, and that it will prove instrumental in protecting the community against the ravages of cholera. In consequence of the success which has attended this undertaking, several other towns have applied for a similar water supply, and the subject is now being carefully studied. In Tokyo, also, arrangements are about to be made for improving the supply. The difficulty at present consists in providing the funds, amounting to about a million sterling. The city has 1,300,000 inhabitants, and enough water would have to be provided for 2,000,000. The question is a pressing one for Japanese towns, because the wells are, for the most part, fouled, owing to their proximity to the rice fields.

CHRONIC SYPHILITIC SALIVATION.—A. W. Furber, M.D., L. R. C. S. and L. D. S., says: I have for a long time had a (gentleman) patient under my care for disease of the teeth, and although my operations progressed favorably, I had many difficulties to contend with. The whole of my patient's teeth appeared to have a syphilitic taint, and with increased flow of saliva, amounting to chronic salivation.

These were not the only troubles I had to surmount; but that which retarded my work most was the repeated recurrence of syphilitic ulcers of the sulcus and gums generally, which, though not painful to my patient, was still a source of considerable discomfort, and militated greatly against the success of my operations. Iodia having come under my notice, I was inclined to give it a trial, and with the addition of a small proportion of liq. hydrarg. bi-chlor., taken daily before meals for a time—also used occasionally as a mouth wash—the salivation became normal, the mucous membrane assumed a more healthy state, and the teeth generally looked like coming back to their original color. 80 Fortess Road, London, N. W.

DURING a fire in a medical college at Cleveland, recently, five subjects escaped from the dissecting room and astonished the firemen by coming through a hole in the ceiling. The floor of the dissecting room had been burned, destroying the supports of the tables on which the bodies lay. After strenuous efforts for the resuscitation of the five victims, the real state of affairs was disclosed.

A CORRECT DIAGNOSIS.—Young physician (inspecting citizen on the floor at the police station): "This man's condition is not due to drink. He has deen drugged."

Officer McGinnis: "You're right. I drug him all the way from Cassey's saloon, two blocks down the street."

DR. T. D. CROTHERS, of Hartford, recently read a paper before the Medico-Legal Society in New York, on the question whether inebriates who commit murder should be made to suffer the death penalty. Dr. Crothers takes the negative, arguing that inebriates are diseased and incapacitated to act sanely, and that their punishment has no deterrent influence upon others. He proposes instead the confinement of the inebriate murderer for life in a workhouse and hospital.

AN IMPORTANT OBSERVATION ON POISONS.—M. Roger, in a communication to the Paris Society of Biology, reports results of some experiments on the antagonism of poisons which controvert ideas which have been more or less current. He found that animals succumbed to effects of a mixture of morphine and atropine long before the ascertained fatal dose of either drug separately had been reached, and the same observation was made with mixtures of atropine and quinine or quinine and morphine.—*Druggists' Circular.*

SKULL EXPANSION.—In the *Memphis Appeal* the report of a coroner's jury is that "the investigation developed the fact that the dead woman's skull was cracked, exposing the brain. The mother, husband and little child of the dead woman were all examined by the jury, but their evidence failed to show the cause of the strange opening in the skull. There being no further evidence in sight, the jury retired for deliberation, and returned its verdict, which was that the woman died suddenly from a natural cause, produced by expansion of the skull."

SIMPLE WAY TO TEST THE ACIDITY OF THE CONTENTS OF THE STOMACH.—A simple method of testing the acidity of the contents of the stomach is suggested by Spaeth, in the *Münchener medizinische Wochenschrift*, as follows: Cut alder pith into small cylindrical bits and immerse them for twelve hours in a solution of Congo-red (15 part of the coloring matter to 1000 parts of water), dry them and put away for test purposes. To use them, first make fast to the end of a strong silk thread a No. 6 shot, string one of the colored cylinders on the thread, and make the patient swallow it—holding fast to the free end of the line, of course; after a few moments withdraw the test pith and the depth of the blue discoloration of it will give an approximate idea of the acidity of the gastric fluids.—*National Druggist*, August, 1888.

A SPANISH Medical College is to be erected at Barcelona. The government has appropriated one million dollars for the building alone. The corner stone of the new structure was laid not long since.

A FRENCH court has fined a doctor 500 francs because he described a case in a medical journal, using the name of the case in such a manner as to enable the readers to identify the person.

DR. FRANK DONALDSON has resigned his position as Clinical Professor of the Diseases of the Throat and Chest, at the University of Maryland. The vacancy has not yet been filled.

THE AMERICAN MEDICAL ASSOCIATION preparing to enjoy Newport, R. I.—It is proposed at headquarters to hold the next annual meeting of the American Medical Association on the last Tuesday in June instead of the first Tuesday of that month. Hotels are not prepared for guests before the last of June, and the various boating and fishing enterprises of Newport are just struggling into active life again after lying dormant during the winter. By all means let the meeting take place as late in June as possible.

A RUSSIAN doctor has established a dairy farm near St. Petersburg for the express purpose of supplying sterilised milk, free from microbes, for the use of hand fed infants.

THE failure of antipyrin as a preventive of sea-sickness has been reported.

OBSTETRICS AND GYNÆCOLOGY—WANTED.—Text-books, journals and transactions on the above subjects in exchange for other medical literature. Address, Dr. E. S. MCKEE, 57 West 7th Street, Cincinnati.

DR. WM. OSLER, Professor of Clinical Medicine in the University of Pennsylvania, has been elected Professor of Medicine in the Johns Hopkins University, and physician to the Hospital, Baltimore, Md. A very excellent appointment.

Dr. W. W. Ireland, the author of "The Blot upon the Brain," will shortly issue a gallery of eccentric or insane persons who have had much influence upon men. The list will include among others Swedenborg, Louis Riel, Guiteau, Theodore of Abyssinia, King Theebaw, and Malagrida.

Antipyrin in Suppressing the Milk-secretion.—Dr. Salemi, writing to the *Bulletin Général de Therapeutique* for June 30, 1888, states that, being called to a young primipara, of robust constitution, who from neglecting the symptoms of trouble in the breast was suffering so severely from fissures of the nipples as to prevent nursing, he employed a large number of different methods for arresting the secretion of the milk, but without avail. He finally administered antipyrin in a daily dose of eight grains, given at three different intervals. The secretion diminished on the first day, and disappeared on the third, not to return.

The Reform of Circumcision.—The Israelites of Paris recently appointed a commission of surgeons under the presidency of Zadoc Kahn, the Grand Rabbi, to consider what modifications might advantageously be introduced in the ritual of circumcision. They have published rules looking to more thorough cleanliness of the operator, of his instruments, and of the infant, and have decided to do away with the sucking of the wound after the operation.—*The Annals of Hygiene*, October, 1888.

How a London Surgeon was Complimented.—The *Pall Mall Gazette* says: "There is a story going about so good that it ought to be made public, and so improbable that it must be true. A very eminent London surgeon—one of the lights of the profession—the other day observed a gentleman fall in the street. He went to his aid, and found he had broken his leg. It was only a simple fracture, but the man was badly hurt. The surgeon used his umbrella as a splint, and with his own and borrowed handkerchiefs bandaged the limb tightly, put the patient in a cab, and drove to the nearest hospital There they were received by a young surgeon or his *locum tenens*. "You've bandaged this very well," said the hospital surgeon. "You flatter me," said the great gun. "Not at all," said the other, "I suppose you have been attending an ambulance class. They say a little learning is a dangerous thing, but the little you've learnt you've put to good account. I can't give you your umbrella now, but if you leave your address it shall be sent home." "I had best give you my card," said the eminent surgeon. And he did so.

Removal of Superfluous Hairs by Electrolysis.—This operation, which is not difficult, though requiring some practice, does not seem to be perfectly understood. A writer in the *British Medical Journal* says: An irido-platinum needle is commonly used, and is inserted along the sheath of the hair until it reaches the level of the root. It is most convenient in practice to use a strength that requires about thirty to thirty-five seconds to loosen the hair sufficiently so that it comes out without traction when taken hold of by the forceps. In dealing with hairs on the upper lip or on the chin of women, it is advisable to operate only on hairs that are strong and black. So long as the hairs are colorless, unless they are very thick and strong, they are better let alone.

THE *Revue Internationale* has published a note on the proper time for the administration of certain drugs. The alkalies should be taken before meals. Iodine and its derivatives should be taken when the stomach is empty, they are then more rapidly diffused in the blood. During digestion they are decomposed by the acids and starch, and consequently lose their properties. Acids should be administered between meals; if the gastric juice is very acid, they should be taken immediately before meals. Irritant or dangerous substances such as arsenic, copper, zinc, iron, etc., should be taken before meals. The nitrate of silver should be administered before meals. Corrosive sublimate and the greater part of metalic salts should be taken when the stomach is empty. The extract of malt, cod-liver oil, and the phosphates are administered preferably during meals or immediately after.

THE recent meeting of the New York State Medical Association, which was held at the Hotel Brunswick, October 9, 10 and 11, was a very successful and attractive one. The attendance was somewhat larger than last year, and the banquet on the evening of the second day was a very agreeable affair. Dr. William T. Lusk, of Bellevue Hospital Medical College, was elected President, and Drs. Ferguson and Hinton were, of course, re-elected Secretary and Treasurer. The Vice-Presidents chosen were as follows: First District, Dr. S. H. French, of Montgomery Co.; Second District, Dr. R. C. McEwen, of Saratoga Co.; Third District, Dr. Elias Lester, of Seneca Co; Fourth District, Dr. T. D. Strong, of Chautauqua Co.

That most accomplished of editors, Dr. Alfred L. Carroll, will of course preside over the difficult task of preparing the volume of Translations for the public. Some of our next issues will present several of the best papers which were read at this meeting.

THE following letter to the *London Lancet* will be found very interesting to many of our readers:

TREATMENT OF OBESITY: PERSONAL EXPERIENCES.

Sir: Some three years ago, finding that my weight had increased enormously, I determined to try the following treatment for obesity.

On March 1st, 1885, I weighed in the Jermyn Street Turkish Bath, 15 stones 10 pounds; on the 2d I commenced the treatment, which was as follows:—Breakfast: one pound of rump steak, without fat. Lunch: another pound of rump steak. At dinner: one pound of grilled cod and one pound of rump steak. I drank at intervals during the twenty-four hours a gallon of hot water. The last thing at night I took two tablespoonfuls of Scotch whiskey in cold water, and night and morning five grains of bicarbonate of potash. On the 16th I weighed again in Jermyn Street, and I found myself reduced to 14 stones 6 pounds. I then reduced the amount of water, and began to take tea or coffee, reducing quantity of meat, and taking toast with it. On April 8th my weight in Jermyn Street was reduced to 13 stones 4 pounds. I gradually from that date returned to my usual habits of life as regards diet; and on the 30th I weighed again, and my weight was 12 stones 11 pounds, and since that date up to now has not materially varied; I have eaten and drunk as I pleased.

Finding this course of treatment was personally successful, I have since treated forty patients with equal success. Before I placed myself under treatment I found my breathing much oppressed in going up stairs, and my work as a general practitioner irksome and fatiguing. I have derived enormous benefit from the reduction of fat, and feel infinitely better, and am able to cycle as much as fifty miles a day with comparative ease. I think it may be useful to put my experience before the profession. I am, etc.,

W. TOWERS-SMITH, M.R.C.S.

81, *Chancery Lane.*

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EDITORIALS.

NEW YORK STATE MEDICAL ASSOCIATION.—The Fifth Annual Meeting of the Association held at the Hotel Brunswick, October 9, 10, 11, was fully equal to any of the previous meetings in the fullness and scientific value of the programme then carried out. It would be impossible in an editorial review to even outline the salient points of all the papers presented, but attention may properly be directed to a few.

That the address of the President would be a scholarly production was expected by all who knew him. He was able to present without triteness, even with freshness, the old subject of the relation of the profession and the public.

A communication by Dr. Fell, of Buffalo, on forced respiration, by means of tracheotomy and a specially arranged bellows, in cases of narcotic poisoning with a probable utility in cases of drowning and shock, was interesting and valuable. Several instances of the successful use of the apparatus were given, and the facts presented showed the efficiency of the method when other plans of artificial respiration were useless. The application of bellows-respiration in physiological experiments is a familiar fact; but Dr. Fell's procedure was original so far as its application to narcotized human subjects is concerned.

The discussion on nosography was opened by Dr. Carroll in his usual happy method of dealing with scientific subjects, and no one at the close of his paper could doubt the occasion for a process of weeding in our medical triminology. Even if not able to see a clear way to a complete scheme of classification and naming.

The discussion brought out a great many important points in the recent advances in medicine, and the contribution of Dr. de Sizer, of Brooklyn, on the place of ptomaines, etc., in any scheme of nosography proved to be an admirable review of the present knowledge concerning that new department in the etiology of disease.

Many of the contributions must be passed over without notice, but it may be here stated that not an uninteresting paper was read. The observation of Dr. Minard, of Brooklyn, in which the menstrual blood was observed to escape from the fallopian tubes in a case of inverted womb will be of importance if such should prove, by future observation to be the rule and not an exception.

The address of Dr. Carmalt, of New Haven, at the forenoon session of the second day, on the removal of the cancerous tongue was a thorough review of the subject, and in the transactions will remain a valuable paper for reference.

Dr. C. W. Brown, in a review of two hundred and sixty-five cases of railroad injury, incidentally started a discussion relative to immediate amputation; and the general conclusion seemed to favor the immediate procedure, on the principle that the clear wound of an amputation would so largely aid in recovery from the shock, that in the majority of instances the depression of the operation would in this way be more than balanced.

No effort will be made to record the discussion on tumors. It was so complete and satisfactory that nothing short of the perusal of the papers in full would be useful. The relationship of this discussion to nosography was manifest, and was purposely arranged by the author of the opening paper, Dr. Gouley. The feasibility of the anatomical plan for the classification of diseases was made manifest, so far as tumors are concerned, though the practicability of its complex application in general medicine did not meet so general an acquiescence.

The address of Dr. Shrady on "Medical New York in 1800," was replete with facts and anecdotes gathered at the expense of considerable research and presented in an entertaining manner.

The paper of Dr. Taylor on "Inversion of the Uterus after Sematic death," was an amplification of the views of the author on the mechanism of that accident, and as such will merit careful perusal.

The treatment of a medical subject by a set discussion having a direct relationship to certain formulated questions was mainly instituted by this Association, and its volumes of Transactions now contain a series of such discussions of value as reference. The closing discussion for this meeting was on Puerperal Septicæmia, and was opened by Dr. C. C. Fredrick, of Buffalo. The identity of puerperal fever and septicæmia was accepted, and the subject carefully and fully considered from every practical standpoint.

The entertainment on the evening of the second day was very pleasant and successful. The informality and freedom of a *buffet* affair is more conducive to social intercourse, extends acquaintanceship and is in every way preferable to the set dinner.

THE *London Hospital Gazette* for October 18th contains a short editorial on a substitute for faith healing. It says:

It has been reserved to an Italian surgeon to point out the really admirable results that may follow a pseudo-castration in the female. A young woman, who, for ten years, had ceased to menstruate, with the most lamentable effect on her general health, had been bedridden for years. She was put under chloroform and an incision involving the skin only, made in the median line, the sutures and dressing being the same as for an ovariotomy. On the third day after the operation there was an abundant discharge of blood per vaginam, and the return of the menstrual function was followed by the most excellent results, the patient being enabled to "rise and walk."

If this case is a true one, it is remarkable and furnishes evidence in law, that a mental impression may beget certain results. In fact the case is almost incredible, if the cause of the cessation of menstruation was a flexion or action of the uterus. We cannot quite believe that a mental impression would have straightened a flexed or verted uterus. If the retention was due to the perversion of the physiological processes that set this phenomenon into action it is not incredible that such a result should be obtained. It would be well for those who report such cases to state more definitely, if known, the cause of the pathological condition ; for then, we could flatly refuse to believe, or believing might learn some valuable lessons in the direction of psychological medicine—a topic all interesting and important at this date. Moreover a grave moral responsibility is involved here, as to whether any surgeon has a right to jeopardize the life of a patient by anæsthetization for a purpose such as this. To attempt to hypnotize such a person, and remove the impediment to the flow by suggestion would seem more rational and less reprehensible.

BRAVE IN THE FACE OF DEATH.—The *Atlanta Journal* has recently contained a short but vivid account of one of the many instances of heroism on the part of the wounded, and questionable surgery on the part of the surgeon that transpired during the civil war between the States. An army surgeon was dressing the wound of a soldier who had been shot in the neck in the vicinity of the carotid artery. Suddenly there was a hæmorrhage from the artery which had just given way and the surgeon thrust his fingers into the wound to stop the flow of blood. The poor fellow asked what that meant. "Death," replied the surgeon. "How long can I live," said the wounded man cooly. "Until I remove my finger," replied the surgeon. While the surgeon held his finger in the wound the hero called for pen and paper and wrote a long letter to his wife and family. When it was done, he said quietly, "let go."

The surgeon withdrew his finger and let the hero's soul rush out with his life blood.

It is, perhaps, worthless to review the irrevocable past unless we can draw from it some lessons of wisdom and usefulness for the present and future, but we cannot linger over the recollection of this sad and touching pen picture, without its raising in our minds grave fears that during the Civil war many a life was unnecessarily lost in the surgeon's hands and that originally keen, moral perception of responsibility was blunted by daily scenes of death and carnage. Just here there comes up strongly before our mind, the story of the brave little boy of Holland, who, discovering a hole in the wooden dam thrust his finger into it, holding it there the entire night, till help arrived in the morning. The cases are analogous though different. Thousands of lives were saved by the pressure of a finger in the latter case; one life might have been saved by the pressure of a finger in the former. Surely no surgeon at this date would remove his finger from a spurting carotid even though at the command of the wounded man. If there were sufficient attendance at hand for pen and paper to be brought there was sufficient aid for an attempt to cut down to the artery and ligate it. It is far from our purpose to offer severe surgical criticism on this romantic incident at so late a date, for it would hardly be of any value, nor are we unaware that surgical appliances were scarce in the Southern army during the late Civil war, but from a surgical and moral standpoint we would rather have read of that surgeon making an attempt to ligate the artery or standing with his finger in the wound till he himself *fainted* or *died*, than to have read the touching finale that on every Memorial day he places flowers on the grave of the brave fellow whose life he held in his hand.

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS.—This young but vigorous Association held its first meeting in Washington, in September at the meeting of the Congress of Physicians and Surgeons. It is composed of the best element of the medical profession who are interested in the specialties of obstetrics and gynæcology, and we bespeak for the Society a successful and useful future. The reports in the medical press of an abstract of the proceedings indicate that the volume of Transactions will be of a high order of scientific excellence. Many of the members have contributed valuable papers to medical literature, and are well known here and abroad.

THE fierce controversy which has been so energetically carried on between the medical attendants of the late Emperor of Germany, is greatly to be deplored by every medical man who has any regard for his profession. It is indeed a sorry spectacle, when men, who profess to devote their lives to the alleviation of human suffering, allow themselves to be drawn, whether by petty spite and jealousies, or by differences in diagnosis and treatment, or by differences in nationality, into such an unseemly conflict as is now being waged. The profession of medicine is no exception to the rule, that men can be perfectly honest and still differ in their opinions, no one, at present, can dogmatize as regards the healing art, should the very men who are now looked upon as being in the front rank of our noble profession, allow these differences of opinion to so excite them that they do things which detract from the honor and dignity of that profession? Is it consistent with dignity, that men who are educators in the profession which they have espoused, most of whom occupy Chairs in some of the foremost institutions of the world, should allow themselves to be interviewed by correspondents of daily papers, when, were they to reflect for a moment, they would certainly see what they say is to be made sensational reading for the laity? This of itself is enough to bring disrepute and a lack of confidence upon us. But worse than that, ought any of us write out the events which have happened at the bedside of one of our patients, allow a firm to publish an account of these events, sell them to any one who will pay a few cents for them, and then sell a verbatim copy of the pamphlet to a daily newspaper in a foreign country for the sum of £500, the copy to be published almost simultaneously with the original. Newspaper men may call this enterprise, but we feel convinced that the members of our profession, who have any regard for its dignity, will have far different thoughts. But this is enough, we have heard about this disgraceful affair *ad nauseam*, and the more we hear of it the more we become disgusted.

IS IT not high time that teachers of anatomy should take cognizance of the fact that instruction in this important branch of medicine, in order to meet the requirements of modern attainments, should undergo a fundamental change? For some time now anatomy has ceased to be simply a collection of isolated facts which the dissector's knife has revealed. It must be more and more a matter of recognition that its scientific basis must be physiology. The loose facts which the anatomist has collected must be bound together by the physiologist. If we will consider the body as composed anatomically of organs, it must logically follow that the question of their function must enter as an important factor. With the introduction of the microscope, as an aid to anatomical investigation, a vast array of new facts have been added to the old knowledge, and hence histology has been built up on the foundation of the cellular doctrine; and in conformity with this innovation we must view the body not only as composed of organs, but these latter as again composed of tissues of structures which are derived from cells, the morphological elements from which the world of organisms develops. What histology has done for an explanation of the texture of the organs, comparative anatomy has accomplished for the organs themselves. It has demonstrated the agreement in type of the human organization with that of the vertebrata, and hence its connection with animal kingdom. Embryology has also shown that in the development of the human being the same processes are observed as exist in the domain of other vertebrata. Human anatomy to be acquired profitably must then be studied by the medical student as a department of physiology. The subject must be treated by the teacher according to the genetic method. A thorough study of histology is the first requisite in order to gain an insight into the finer structure of the organs. The genetic exposition of the organs must imperatively demand also a knowledge of embryology.

IT is regretted that in the October number of this JOURNAL neither Dr. Leighton's article on page 319, nor Dr. Govan's clinical case on page 347 were accredited to the Association before which they were read. Both of these interesting papers were read at the Sixth Special Meeting of the Fifth District Branch of the New York Medical Association held at Babylon, L. I., Tuesday, July 31, 1888.

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ORIGINAL ARTICLES.

ARTICLE I.

REMARKS INTRODUCTORY TO A DISCUSSION ON NOSOGRAPHY.*

By ALFRED LUDLOW CARROLL, M.D.

The questions propounded for discussion are:

1. What general principles should govern classification and nomenclature, irrespective of their particularization in medicine?

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* Read before the New York State Medical Association, October 9, 1888.

2. What are the advantages of a nosographical system based upon anatomy?

3. Does a nosography based upon anatomy afford satisfactory means for the registration of clinical phenomena?

4. What place in nosography should be assigned to bacteria, ptomaines, leucomaines and "extractives" respectively, (*a*) from a biochemical, (*b*) from a clinical point of view?

In debating a theme so intricate and difficult that the most enlightened industry of many successive generations has failed to satisfy even contemporary demands, it should be borne in mind that, from a purely critical point of view, classification and nomenclature are, to a certain extent, separable. The latter is, of course, necessary for the recording and interpretation of the former, and should convey with etymological correctness the ideas which it is intended to express; but this condition being reasonably fulfilled, attention should not be distracted from the spirit by too myopic pedantic peckings at the latter. For the very sake of intelligibility it may sometimes be expedient to depart from rigid pedagogic precept. For example, the Greek prefixes "hyper" and "hypo" are, unfortunately, so nearly similar that the retention of the final "o" in the latter before a compounding vowel, though contrary to strict scholarly rule, may be defensible in the interest of the student of medicine who, without a preliminary classical education, might easily confound opposite meanings.

That there is need of a proper classification of diseases must be evident, not alone to those who are engaged in exploring the labyrinth of mortuary statistics, but to every teacher and practitioner of medicine. Under the present method, or, rather, lack of method, lesions and symptoms, causes and consequences, are so interchangeably confused that our literature is robbed of the greater part of its value and the progress of scientific education sadly retarded.

Until our knowledge of pathology shall be complete, an ever-diminishing portion of any system of classification must, of necessity, be provisional, and there will remain an excuse for the symptomatic naming of unknown pathic conditions, such as "myxœdema," "progressive muscular atrophy," "glycosuria," and others, as there was in the past for "falling sickness," "white swelling," "fungus hæmatodes," "lochial, or puerperal fever," etc. But just as in the botanist's collection, as soon as the real characters of such doubtful specimens are ascertained they should be withdrawn from their temporary pigeonholes, labelled with fitting specific and generic titles, and ranged in their appropriate order.

In nosography, hitherto, it has been forgotten that classification should be founded on differences rather than on similarities, proceeding from the individual to the variety, species, genus, order, and so on successively, as these differences become wider and characteristic of larger groups. The separation of the largest groups in accordance with their agreements is a later affair. This plan is followed in all other departments of natural science, and notably in botany and zoölogy (of which latter our study of man is but a highly specialized branch), and not the least of its advantages is that any changes rendered necessary by advancing knowledge affect only the terminal members of subordinate groups. Evidently, also, as regards nosography, instead of antagonizing science and practice in medicine, the very groundwork of a scheme so arranged lies in accurate clinical observation of sub-varieties and varieties, and each specialist contributes what is of essential importance to the whole, as the ichthyologist, ornithologist, or entomologist, furnishes the basic data of zoölogical tabulation. A correct system of classification, therefore, will not only be an invaluable aid to the practitioner of medicine, but must primarily depend on his trained power of differentiation.

Touching the proposed principle of classification, it must be remembered that the word anatomy is employed in its modern and widest sense, as comprising the actions as well as the gross and microscopic structure and chemical constitution of the various component parts of the body in both normal and abnormal conditions; and in this sense it is impossible to think of any clinical phenomenon which could not be satisfactorily registered if it were satisfactorily investigated. It fully covers what Hughlings Jackson has called the threefold clinical problem of a disease, "anatomical, seat of lesion; physiological, functional nature of lesion; pathological, disorder of the nutritive process," and gives provisional room for what we must be content to term "functional" disorders until we shall have discovered the structural alterations which undoubtedly induce them. A sorry sort of empiricism would result from the general adoption of Moxon's dictum, that the physician "must know diseases, not as the zoölogist knows his species and his genera and his orders, by descriptions of comparative characters, but as the hunter knows his lions and tigers," and he who "goes a gunning" therapeutically with such superficial lore will be apt to waste snipe-shot on a rhinoceros or explosive bullets on a reed-bird. This lion-and-tiger kind of notation almost inevitably degenerates into mere symptomatology, and is responsible for the insoluble ambiguity of many of the death certificates which used to bewilder me when I was engaged in superintending their registration, and for the shallow diagnoses which too often discredit the profession and injure the patient. It has led to regarding a prominent effect, or congeries of effects, as a morbid entity, and afforded ground for the irrational dogma of Hahnemann, that "the totality of the symptoms constitutes the disease." It is a surprisingly common thing to find deaths ascribed to "paralysis," "dropsy," "coma," etc., and to hear of "general debility," "biliousness" and "complications of diseases," which are really co-ordinate results of a single cause. A patient whom I was asked to examine some months ago, suffering from mitral regurgitation and cardiac dilation, has since then passed into the care of another diagnostician, who has shamed me by the brilliant discovery that she has both "asthma and dropsy," and similar instances are doubtless within the almost daily experience of many here present.

If it be admitted, as it is by most modern thinkers, that pathological phenomena are but perversions of physiological actions, "governed by the same fundamental laws which direct the normal processes of life" (Michael Foster), then it is manifest that pathology is potentially classifiable by the same method as physiology, namely, on an anatomical basis; but it is equally manifest that our knowledge of both of these branches of biology must be perfect before our classification can be permanently established. The existence of symptomatic titles is a virtual confession of ignorance of the pathic conditions which they conceal, as is most remarkably exemplified in the *terra incognita* of mental diseases, where contending classifications are founded principally on single symptoms. "General paresis," "reasoning mania," "erotomania," "kleptomania," "folie circulaire," "agoraphobia," "aboulomania," etc., mean as little as possible, therein conforming with the amount of our information as to their pathogeny. Such terms as "folie a deux" mean absolutely nothing; and "melancholia," with due deference to a recent Buffalonian reviewer, means a superfluity of black bile, in survival of the ancient hypothesis of its etiology. "Cholera" is the direct opposite of a flow of bile, and "struma" means building up, instead of breaking down.

Having gained, by observation and comparison, a sufficient knowledge of things to begin to classify them, the next step—since our knowledge can neither be recorded nor imparted to others save by words—is to name them; and it is a truism to assert that the name should convey our notion of the thing, epitomizing, so to speak, its description. Furthermore, for the inter-communication of ideas between different nations, it is necessary that names be derived from universally intelligible roots; hence, Greek and Latin, the languages of scholarship throughout the world, must, for our purposes, supplant vernacular tongue.

When an artificially assumed meaning of a current word has been clearly defined and generally accepted, its retention in any branch of science is permissible, if it be not grossly incorrect etymology; as in the case of "geometry," which has long ceased to signify merely measurement of the earth; "electricity," which nowadays has little connection with amber; or "politics," whose ravages extend far beyond the philological bounds of a city. The very terms which designate the fundamental parts of our professional education are of this kind. Anatomy means a cutting asunder, and is, etymologically, as applicable to the trenchant disseverance of inorganic matter as to the structure of the animal organism. Physiology covers the entire range of natural phenomena, from astronomy to conchology, and even in an arbitrarily restricted sense, was formerly construed as synonymous with physics. Chemistry refers strictly to liquid juices. Surgery is an abbreviation of "chirurgia," and as pertinent to the manual labor of the blacksmith or hod-carrier as to the work of Astley Cooper, or Dupuytren, or Valentine Mott. To cavil at such time-sanctioned technics would be rank hypercriticism.

Many of the names used in pathology, however, are misnomers so monstrous that, while possibly pardonable in the past as cloaks for ignorance, later research demands their retirement; others never had a valid apology for their existence. "Rachitis," manifested in the long bones and internal organs, means inflammation of the vertebral column. "Gout" means a drop, and is only suggestive of the occurrence of the malady in persons who are in the habit of "taking a drop too much." "Rheumatism" implies a watery discharge; "croupous" signifies "crying out," and "catarrhal" "pouring down," rendering their adjective connection with pneumonia ridiculously inapt; and, to cap the climax of absurdity, we frequently read of "hysteria in the male" and "gonorrhœa in the female." Baseless imaginings of remote similitudes to lower animals or to plants have encumbered us with a farrago of nonsensical appellations, such as "ranula," a little frog; "lupus," a wolf; "cancer," a crab; "scrofula," pertaining to a sow; "sycosis," fig-like; "molluscum," primarily from "mollus," soft, and mediately from a so-miscalled excrescence on the maple; "framboesia," from the raspberry; "urticaria," from the nettle; and, with consistent inconsistency, sundry sorts of tumors, either sessile or with a solitary pedicle, are congregated under the title " polypus," connotating a many-footed thing.

Then, to make confusion worse confounded in the overtaxed memory of the novice, and to discomfort oftentimes the older practitioner, we have a multitude of personal names irrelevantly attached to diseases, or even to single symptoms of disease. " Paralysis agitans " is indefinite enough, but to dub it " Parkinson's disease " is adding insult to injury. " Bell's palsy," " Duchenne's paralysis," " Landry's paralysis," are unmeaning sacrifices of pathology at the shrines of uncanonized saints, who surely would, if they could, spurn the offerings. " Dupuytren's contracture " crippled many a hand before his day ; and it requires some memonic effort to recollect that " Dupuytren's fracture " is only an exaggeration of " Pott's fracture " ; that this fracture is a totally different thing from " Pott's disease," and that neither Pott nor Colles had any passive or active proprietary interest in the solutions of continuity which bear their respective names. How many of us are likely long to remember that " Weil's disease " is a simulacrum of " abortive typhoid fever " ; that " Friedreich's disease " is a phase of locomotor ataxia, without ocular or neuralgic accompaniments ; or that " Kaposi's disease " is an *alias* for what Hebra christened " xeroderma " ? It is easier to fancy than to depict the state of mind of a student when he hears of a patient with a Naegele pelvis, Cheyne-Stokes respiration, or an Argyll-Robertson pupil, or is asked whether, in a case of suspected Meniere's disease, he would try Valsalva's or Politzer's method.

With such a preposterous and perplexing jargon as has been partly sketched ; with Germans writing of " Basedow's disease " and Britons of " Graves' disease " ; " carbuncle," a little Latin coal, and " anthrax," a great Greek one, both applied to a local inflammation of the corium, and the latter name, or its French translation, " charbon," assigned with equal inaccuracy to the " splenic fever " of cattle (wherewith the spleen has no causative connection), and to its inoculated effects in man ; " struma," indicating in one place an enlargement of the thyroid body ; in another, lymphadenitis ; in a third, tuberculosis ; and in a fourth, no one knows what ; with numerous morbid malefactors roaming about Europe, each with as many pseudonyms as a veteran fugitive from justice—it is quite time to ask if an endeavor should not be made to revise our incongruities, and to secure international concurrence in giving to every known thing a name which shall everywhere intelligibly express the same notion. The task is a cumulative one, involving long labor, close study and keen debate in many lands; but the sooner it is begun the nearer will be its accomplishment, for while it embodies present knowledge it must facilitate further learning.

Of the precise position to be assigned to microbia in relation to disease it is not possible at present to speak with certainty; but there is a growing opinion, supported by observation and experiment, that their intrinsic potency of evil has been overrated. The majority of the numerous varieties which have been carefully studied apparently exert a beneficent power in destroying refuse organic matter, and if an universal "germicide" could be effectually employed, the human race would probably be exterminated by its own waste products.

A few infective diseases are unquestionably associated with the presence of peculiar micro-organisms; others, from the simple analogy of their infectiveness, are presumed to have similar relations, but in these, hitherto, microscopists have either found no "microbes" at all, or else too many, and have quarreled as to which among several cocci and bacilli should bear the special pathogenic blame. Microphytes, indistinguishable from each other morphologically, have been discerned in both health and disease, until at last the microscope has been almost set aside, and, as in the examples of the "comma-shaped" spirilla and sundry micrococci, specific definitions are predicted on assumed physiological actions alone, in as direct violation of every principle of classification as it would be to erect flatulent dyspeptics and diabetic patients into separate species of the genus homo; although cautious bacteriologists have admitted "that changes in the nutrient medium may have some effect on the form and size of the (protophytic) cells, on their mode of multiplication, and on their physiological or fermentive properties," and that to induce disease the viciously disposed intruder "must find within the body, and in proper combination, all the conditions necessary for its growth and multiplication" (Ziegler), thus tacitly imputing some morbific influence preceding bacterial invasion. All individuals are not equally susceptible to infection, as they should be if certain specific micro-organisms were the *veræ causæ* of disease and capable of disorganizing previously healthy tissues; the field mouse and the domestic mouse reciprocally resist each other's so-called septicæmic schizophytes; one animal falls easy prey to an inoculation which another of the same genus absorbs with impunity; while, on the other hand, the same micro-organism is credited with producing different morbid effects in animals of different genera. In laboratory experiments it has been shown that the same ferment may evolve different products, or various ferments the same product, according to their environment; and from a clinical point of view it has seemed to many acute observers that several contagia may arise from the exaggeration of common putrefactive processes—a belief fortified to some extent by the "intensification" or "attenuation" of microbial virus through successive cultures in varying media.

Long before the transcendental evolution of modern bacteriology the seeming analogy between the phenomena of fermentation and the manifestation of infectious disorders led to the grouping of these under the title of "zymotic diseases," and early in the career of the "germ theory" the minute organisms discovered were called "microzymes"—little ferments—the aptest of their ordinal appellations. Subsequent experience and the most recent research tend to bear out this analogy and to suggest that the action of the bacteridiæ is catalytic, and that the chemical product of fermentation—the real *materies morbi*—depends as much, or even more, upon the character of the fermenting medium.

One of the first observations in this direction was that septicæmia could be excited by a virus which, though probably the product of a bacterially originated fermentation, was itself demonstrably inanimate. Later, it was noticed in several instances that after certain "cultured" (or fermented) media had been freed from all micro-organisms, a something remained which was sufficient to communicate infection. Finally, chemistry is coming rapidly to our enlightenment with its already brilliant investigations into the genesis and composition of the various ptomaines, leucomaines, and still unbaptized "extractives."

In their clinical relations, it is worthy of passing note that while the production of the ptomaines is presumably due to catalytic bacterial intervention, it is held by some of the best authorities that leucomaines may be generated by the degraded action of the tissue cells themselves, and the question may arise whether the somatic development of some of these leucomaines cannot, perhaps, prepare the soil for microzymotic implantation, thus constituting the individual susceptibility to exogenous infection. Again, the fact that different ptomaines, some poisonous, others innocuous, are formed successively in different stages of the same fermentation may possibly hereafter be connected with the self-limitation of many zymotic maladies. Of the ptomaines heretofore catalogued, thirteen are stated to be more or less toxic; five to be innocent; and of the remaining nine the action is not yet known. It is not inconceivable that some of these may counteract others, and if future study shall lend weight to the conjecture, it will aid in solving the obscurest problems of pathology. Among the leucomaines there is even now alleged evidence that a few, at least, are mutually antagonistic. Of the nature and mode of operation of the virulent "extractives" we have little beyond surmises, but a wide field is opened for further exploration. I shall leave to the distinguished chemists who have kindly consented to join our discussion a definite survey of the boundaries of exact information concerning these and the preceding groups of alkaloids, and to my medical colleagues a more elaborate elucidation of the questions which I have cursorily introduced.

ARTICLE II.

ADDRESS IN OBSTETRIC MEDICINE.*

By GEORGE TUCKER HARRISON, M. A., M. D., of New York County.

Mr. President and Fellows :

When the request of your Committee of Arrangements was conveyed to me, that I should deliver an address in obstetric medicine, at this annual gathering, I was naturally highly gratified at such a proof of esteem, but any feeling tending to self-gratulation was soon chastened by the reflection that my performance must fall far short of what I deem worthy of the occasion. Let me then at the outset ask your indulgence for any shortcoming your critical acumen will detect in the remarks to which I now have the honor to invite your attention. The elevation of obstetrics to the rank and dignity of a science is of quite modern date and we may confidently affirm that its origin goes no farther back than the beginning of the second half of the present century. With the rise and development of natural scientific medicine goes, hand in hand, modern obstetrics. According to Virchow, "Medicine as an applied natural science thrives only on the broad ground of the entire natural sciences," and this apothegm is the credo of modern medicine including obstetrics. Calling to its aid pathological anatomy and availing itself of the great advances recently made in physiology, histology, and embryology, modern obstetrics has proposed to itself a vast problem, that is, to investigate the physiology and pathology of pregnancy, childbirth and the puerperal period. It need scarce be said that the solution of this problem is but in its beginning. The light, however, that has already been converged upon it has illuminated many dark places and furnishes an incitement to increasing effort. The first subject naturally to which scientific obstetricians directed their attention was normal labor, the physiological process of the expulsion of the fœtus and placenta and the manner in which the uterus participated in the process.

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* Delivered at the Meeting of the New York State Medical Association held October 9th, 10th, and 11th, 1888.

As epoch making may be designated the section of a frozen cadaver of a parturient woman which Brown published in the supplement to his topographical anatomical atlas, in view of the more accurate knowledge it gave of many processes occurring during labor and in view of the stimulus it gave to similar preparations by Waldeyer, Chiari, Chiara, Schroeder-Stratz and Benckiser-Hofmeier. To Schroeder and his pupils, especially, modern obstetric science owes an impayable debt of gratitude for the beautiful researches they made in regard to the behavior of the cervix and corpus uteri during pregnancy and childbirth. According to these investigations a section is found in the parturient uterus so characterized that it intervenes as a distended and thinned part between the upper thickening portion and the cervical canal below. This section is the "lower uterine segment." In the unimpregnated uterus a part lies above the internal os uteri between the latter and the firm attachment of the peritoneum characterized by the loose adherence of the peritoneum to the muscular tissue. In this part a number of muscular fibres or lamellæ go to the mucous membrane, but externally very few fibres originate from the peritoneum and these fibres be far apart in their origin. There is, consequently, in the parturient as in the unimpregnated uterus, "a lower uterine segment," which differs from the remaining body as well as from the cervix. It can be plainly recognized also in the impregnated uterus. In the beginning of pregnancy this part thickens with the remaining portion of the uterus, but retains this condition longer than the upper part. Towards the end of pregnancy, however, a thinning can take place. "The lower uterine segment," as the studies of Hofmeier have demonstrated, is further characterized by the mode of its arterial supply which serves to explain many physiological and pathological phenomena formerly quite unintelligible. "The behavior of the arteries," observes Hofmeier, "is always the same independently of slight modifications." According to his description after giving off some rather large branches to the cervix and upper part of the vagina, the uterine arteries run parallel to the upper part of the cervix and only furnish the first large branch to the uterine tissue at the place of firm attachment of the peritoneum, and from this latter point "the lower uterine segment" is supplied by half recurrent twigs. We can now understand how it is that during labor the uterus is functionally differentiated into an upper, active, and a lower, passive, part. The functional separation does not correspond to the anatomical division between body and cervix but the lower portion of the uterine body, "the lower uterine segment" is excluded from the function of the upper part of the uterine body. The physiological function of these two sections is directly opposite, the upper, the hollow muscle, contracts, becomes smaller and thicker in labor, while the passive part is distended to a wide flabby sack. The lower boundary of the hollow muscle which contrasts sharply with the distended tube below, as soon as uterine contractions occur, was happily designated by Schroeder as "ring of contraction," since in this circle the effective contractions come to an end. It has not been certainly ascertained, hitherto, in what way the formation of the ring of contraction is effected. One fact, however, has been established beyond peradventure, and, that is, that it corresponds to the lower boundary of the firm attachment of the peritoneum.

The researches of Hofmeier and Benckiser confirm the doctrines taught by Dr. Isaac E. Taylor since 1865, that the cervix remains in its integrity up to the end of pregnancy. Moreover, they prove conclusively the correctness of Schrœder's views, that the cervix retains in pregnancy its characteristic mucous membrane, while "the lower uterine segment" is invested with true decidua. The mechanism of labor, the mode in which the child's head enters and passes through the pelvis, has lately received renewed attention, and the studies of Veit form a valuable contribution to this theme. Few medical subjects in the last few years have been more carefully studied and more thoroughly discussed than the mode of detachment and expulsion of the placenta in normal labors, in consequence of which a reactionary movement has taken place against the general adoption of the Credé method. For my own part, from careful clinical observation I can heartily concur in the views advocated by Schröder on this subject. As he correctly states, if the parturient woman be left to herself, we may readily convince ourselves of the fact that the detachment of the placenta and its expulsion from the hollow muscle (uterine body to "the ring of contraction") takes place with great certainty and in a comparatively short time if left to the natural forces, but that the placenta can remain for a long time in the passive portion (lower uterine segment, cervix and vagina). Furthermore, it is observed that the spontaneous detachment and expulsion of the placenta is usually accompanied by but slight bleeding, hæmorrhage to any extent being a very rare event. The rule of practice based on these views will be, then, to wait quietly until the diminution and ascent of the uterine body and the bulging above the symphysis show that the placenta is expelled from the hollow muscle beneath the ring of contraction, and thereupon, by gentle pressure, to facilitate its passage through the vulva. The Credé procedure I would reserve for cases in which the placenta does not become detached, or those in which it has been separated in the way described by Duncan, and consequently has remained with the upper edge fixed in the uterine body. This method would be indicated likewise when there was some obstacle which prevented the placenta from escaping completely out of the uterine body, as, for example, might occur when a very large placenta had to pass through a moderately contracted " ring of contraction." The doctrine of the narrow pelvis founded by Michaelis has been of late years developed to large proportions by the exact scientific investigations of Litzman, Rokitansky, V. Meyer, Breisky, Leopold, Fritsch, Neugebauer, Lusk and others. The etiology especially of spondylolisthesis has been studied by Neugebauer in the most careful and searching manner, and he has succeeded in enlightening this subject in a very satisfactory manner. The recent contribution of Prof. V. Meyer, of Zürich, has still farther enlarged our knowledge upon this form of narrowed pelvis.

Modern obstetrics may justly boast of having brought within the circle of its investigations a domain but recently entirely ignored—that is, the diseases of the decidua, of the fœtal appendages, and those of the entire organism which are evoked by pregnancy. Among the latter there is no malady which at times may embarrass the practitioner more than *hyperœmesis*, the problem being how he shall proceed in a given case; whether artificial interruption of pregnancy is indicated or not. Under these circumstances the skill and judgment of the physician are taxed to the highest degree.

The subject of eclampsia of recent years has called forth many valuable papers, and, as you are aware, was ably discussed before this Association two years ago. While it cannot be said that the result of these studies and discussions has been to illuminate the essential nature of eclampsia, yet it can be maintained that the problem is pressed nearer to a solution. Our present theory, at any rate, does not do violence to the facts, as was the case with the assumptions of Fredrichs, Traube, Rosenstein, etc. According to this theory, as stated by Zweifel, a stasis of the urine, an obstacle to its secretion, is caused at times by the pressure of the uterus on the ureters. As a matter of course, if this obstacle lies in the kidneys themselves, the explanation is the same. The urine, when retained in the organism, poisons the nerve centres, and evokes an increased reflex excitability.

Labor pains give the incitement to the outbreak of the convulsions and coma (vaso-motory neurosis). The clinical phenomena of the disease are brought forth by the concurrence of urinary retention and uterine contractions.

In passing, we must mention the increase of late in our knowledge of the physiology of the fœtus, largely due to the researches of Preyer. Further, the transition of matters from the maternal blood to the fœtal has been recently the subject of much experimentation. That substances dissolved in the maternal blood can pass over into the fœtus has been demonstrated by Gusserow, Fehling and others. The transition of formed elements has, moreover, been demonstrated, not only experimentally in animals, but also by experience in man. The fact that in variola of the mother the fœtus in utero can likewise be affected, and, on the other hand, the fact that vaccination of the mother can render the fœtus insusceptible to vaccination, proves conclusively that molecular substances can go over to the fœtus.

Of all the acquisitions of modern obstetric medicine, however, none can vie in importance with those derived from the application of antiseptic principles to this branch of medical science, and the discovery of the transmissibility of septic diseases. It was the great merit of Semmelweiss to have first shown, by a train of reasoning based on wide induction, what was the true origin of puerperal fever. Before his day a dreary darkness rested upon this subject, which only cleared away before the uprising sun of his exact investigations. It is a sad thought that he did not live to see the triumphant vindication of the correctness of his generalizations and enjoy one of the greatest blessings that it is given to man to realize on earth—I mean the satisfaction of having conferred upon mankind an inestimable boon by the discovery of a great truth. His colleagues, instead of setting to work to test the correctness of his theory by an examination of the facts, wasted their energies in theoretical discussions. The reason of this was doubtless threefold. In the *first* place, the age was not ripe for his discovery; the question of the infection of wounds was too little understood; *secondly*, the adoption of his views involved such a revolution in current opinions as must awaken in every obstetrician a feeling of blame for his past errors; and *thirdly*, Semmelweiss advocated his views with such intensity and passion, and so overwhelmed his opponents by the violence of his invective, as to call forth bitter opposition. The consequence was that his wonderful work on the etiology and prophylaxis of child-bed fever which appeared in 1861 was almost totally disregarded. The general recognition of the truth of his doctrines came later when, as a consequence of Lister's method of treating wounds, bacteriological investigations began to be cultivated, and the doctrine of the potency of micro-organisms in the production of disease came into existence. But while general unanimity exists in regard to the truth of the doctrines of Semmelweiss, the temperature of the puerperal condition still constitutes a debatable ground on which the most antagonistic views prevail. By some, every elevation of temperature in the puerperal state is regarded as pathologically significant, and must be considered as a fever due to infection, even if it is impossible to give a definite explanation of its ætiology, while on the contrary others maintain that transitory elevations of temperature are incident to the healthy puerperium. Doederlein* has lately undertaken to enlighten this theme by investigations in regard to the occurrence of schyzomycetes in the lochial discharges of the uterus and vagina of puerperal women, and further by studying the effects of inoculation of rabbits with these discharges. The result of these investigations he enumerates as follows:

1. "The lochia of the uterus under normal conditions do not contain any schyzomycetes.

2. "The lochia of the vagina under normal conditions, contain innumerable germs of the most varied kind.

3. "The lochia of the uterus can be incorporated in the animal body in any mode or quantity at pleasure without reaction.

4. "The lochia of the vagina are competent to call forth infection in animal abscesses.

5. "The presence of germs of any sort in the puerperal uterus causes elevation of the temperature, as a rule.

6. "After the cessation of this elevation of temperature the lochia of the uterus are again devoid of germs.

7. "The removal of these germs ensue by the increased secretion and discharge of pus cells.

8. "Even before the elevation of temperature germs are found in the uterus. On the one side a certain time of incubation must be assumed. On the other especial exciting causes must be brought into play, as for example, assuming the erect posture, in order to bring to expression the slumbering noxious agent.

9. "The uterine lochia, which contain germs in fever, evoke in animals phenomena of infection.

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* Archiv. für Gynækologie.

10. "When they only contain isolated germs, in which case the clinical disturbance is quite slight, they produce no injury on the animal.

11. "The vagina can also contain pathogenic germs (anto-infection), when no internal examination has been made.

12. "The uterine lochia of sick puerperal women always contain germs, the streptococcus pyogenes being found always without exception.

13. "The immigration of germs into the uterus can take place without an examination, an operation, etc., (auto-infection)." Czerniéwski* as the result of his bacterioscopical studies has attained to the following results:

1. "In lochia of healthy puerperal women we find micro-organisms in the uterus cavity very rarely, and only as an exception, hence it follows:

2. "That the lochia of healthy puerperal women possess neither pyogenic nor phlogogenic properties (ott. Doederlein).

3. "In most cases streptococci may be demonstrated in the lochia from the uterine cavity of puerperal women slightly diseased, which may be proven by control experiments and injections.

4. "In puerperal cases terminating fatally (septicæmia, lymphatic form), streptococci develop in cultures from the lochia, as also after death in cultures from all fluids and organs.

5. "The streptococci are the same in slight as in fatal puerperal diseases.

6. "The streptococci present in puerperal diseases can evoke both abscesses and erysipelatous inflammations of the skin.

7. "In the diseased organism the streptococci lead to a degeneration of the parenchymatous organs, and to hyperæmia of the serous tissues with greater or less exudations.

If further investigation should demonstrate the correctness of these conclusions at which Doederlein has arrived by his experiments, and which are partially confirmed by Czerniéwski's studies, it would follow as a logical necessity that our views to a certain extent must undergo a modification. The disinfection of the vagina during labor would be indicated to a much greater degree than was formerly thought to be necessary when the innocuousness of any germs found in the vaginal secretion was maintained. If the term auto-infection be used in these cases, it must be expressly insisted upon that the noxious substances have not originated in the organism itself, they must in all cases have been imparted from the outside, if not by foreign intervention by the affected individual herself. It is certainly a ground of thankfulness that, owing to the development of asepsis in the conduct of labor, the greatest danger which formerly threatened the lying-in-woman, puerperal fever, is now under our control. Corresponding to the advance in aseptic surgery, modern operative obstetrics can boast, if not of new operative procedures, of what is better, *more favorable* results. What grander achievements can be mentioned than the improved method of Saenger for the performance of the Cæsarean section! The operation of laparo-elytrotomy for the admission of which into the list of operated procedures available in cases of narrowed pelvis, we owe to the masterly skill and ability of Dr. Thomas must be considered as one of the splendid acquisitions of recent times. In the therapeutics of extra-uterine pregnancy the proposal was made by J. Veit and carried into successful execution to perform laparotomy and extirpate the fœtal sac before the latter had burst. Veit has operated in this way a number of times since, and Hofmeier likewise. Dr. Janvrin is an earnest advocate of this operative treatment of extra-uterine pregnancy in the early months, as soon as the diagnosis has been made and before the sac has burst. Kelly of Philadelphia and Howley of this city have each operated successfully under these circumstances. When the obstetrician, however, is not called until the sac has already burst and the patient is threatened with death from internal hæmorrhage, the success of Lawson Tait, especially, would seem to indicate that it is his imperative duty in such a case to perform laparotomy and secure the bleeding vessels. The technical difficulties regarding the operative treatment of extra-uterine gestation, especially in the latter months of pregnancy have not been as yet entirely overcome, but still immense progress has been made and we may hope that the day is not far distant when they will yield to advancing knowledge. In conclusion let me call upon you one and all to contribute what you may to advance the grand cause of the increased safety of the pregnant, the parturient and the puerperal woman. The imperfect sketch I have given of what is the product of modern research and effort gives us cause of gratitude that our past achievements have been so glorious and should animate us with increased zeal to persevere in the same direction. We must still strive after the discovery of truth, although, as Lessing says, the full truth is for God alone. The field that lies before us and invites to careful cultivation is both wide and fruitful. There is room for many laborers and the harvests to be gathered are richer by far than golden.

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* Archiv. für Gynækologie, Bd XXXIII, Hft 1, p. 101.

ARTICLE III.

THE MEDICAL TREATMENT OF FIBROID TUMORS OF THE UTERUS.*

By BEDFORD BROWN, M.D., of Alexandria, Va., Ex-President of Medical Society of Virginia, Member of Medical Examining Board of Virginia, Member of American Medical Association, Member of Southern Surgical and Gynæcological Association.

Mr. President:

My personal experience in the treatment of fibroid tumors of the uterus is confined to the observation of twenty-seven cases which have occurred in my practice during the past thirty-seven years. Some of these cases have only been under my observation for one or two years, some for five or six years, while a certain proportion have remained under my care from twelve to fifteen years. While this experience is not very extensive, nevertheless the results of the careful and studious observation of the progress and results of treatment of this number of cases are of some value as an addition to the history of this class of affections. In these twenty-seven cases are included all classes, from the most grave, in constitutional effect accompanied with alarming hæmorrhagic tendencies, peritonitis, septicæmia and general prostration, to those in which the system never sympathized in any serious degree. And yet in not one of these persons so affected have I seen the occurrence of death. On the contrary in all the cases remaining under my observation sufficiently long, there has invariably been improvement more or less marked in several instances, at least one-third amounting to a positive recovery.

In some instances I have had an opportunity of watching the incipient beginning, the progress, gradual development, and finally the decline of certain cases covering the different stages of a very interesting history.

In one case, the most serious and dangerous coming under my care, my attention was called to it when the tumor was not larger than a walnut. I observed the gradual growth of this tumor from this small beginning during a period of eight years until the abdomen was filled to repletion with an enormous tumor, subperitoneal in character, while another, submucous in location, distended the uterus to the full capacity of the pelvic cavity, crowding every other organ out of position. I witnessed the repeated copious and dangerous hæmorrhages to which this patient was subjected. The numerous attacks of localized peritonitis. The loss of appetite, of flesh and strength. The habitual quick pulse, and terrible mental depression, and nervous prostration. I then again had the opportunity of seeing the arrest of growth of these tumors. Their gradual diminution and subsidence of all constitutional symptoms and finally their complete absorption. Through the abdominal walls the bare rudiment of a tumor can be detected now, and the uterus has been reduced to the normal dimensions.

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* Read at the session of the Southern Surgical and Gynæcological Association, December 5, 1888.

These various stages of growth and decline occupied about fifteen years. The growth began at about the age of thirty and terminated just before the patient reached forty-five. She has not quite passed the menopause yet.

The growth was in progress about ten years and the period of reduction occupied about five years. The general health of the patient now is good and her strength fair. Forming an opinion based on long experience I have reached the conclusion that by proper and judicious management as a rule death may not only be averted under the most untoward circumstances, but that the great majority of cases can be so far improved by medical treatment and regimen as to render life comfortable and bring the disease to a point of reduction when the health is virtually restored. As an evidence of the truth of this statement I will cite another case of interest bearing on this question.

The subject of this case about ten years ago gave birth to a child in her twenty-fifth year. In twelve months subsequently she became troubled with metrorrhagia which continued to increase until it became so constant that the woman was not an hour without some sanguinous discharge amounting once or twice monthly to dangerous hæmorrhage. It was found on examination that the uterus was so large as to very nearly fill the pelvic cavity, and to contain a submucous fibroid of probably nearly three inches in diameter. The os uteri measured about two inches in diameter, was patulous, puffy, rather livid, with numerous small blue tortuous veins plainly perceptible traversing the mucous surface accompanied with marked œdema of the cervix. The constant and severe pelvic pains in this case from distension, the irritation of bladder and rectum exceeded anything of the kind I have ever witnessed in a similar case. In rather more than twelve months from the beginning of the metrorrhagia two hard fibrous tumors began to develop in each breast. From these tumors as central points radiated pains of a neuralgic character of the most excruciating intensity extending over the chest and down the arms in the direction of the brachial nerves. The pains increased in intensity in proportion to the increased growth of the fibroid tumor, and in all my experience I have never witnessed more intense suffering than this patient underwent, as every description of opiate and anodyne was tried without relief.

Both mammary tumors were finally removed, but the neuralgic pains continued in the same intense character in not only the locality of the tumors after cicatrization, but following its former course down the arms.

A remarkable feature of this neuralgia was the violent attacks of increased pain caused by the slightest muscular movements of the arms. A thorough course of electrical treatment not only relieved the neuralgia of the chest and arms, but when applied to the uterus also afforded relief to the uterine pains.

During a period of ten years this woman must have suffered from two hundred attacks of uterine hæmorrhage. Consequently, she became greatly anæmic, alarmingly prostrated, and at one period dropsical. Under treatment the neuralgia has been entirely relieved, the hæmorrhages have ceased, and menstruation is normal.

The reduction of the submucous fibroid has been steady, until it has about disappeared, and on exploration the uterus is about two and three quarter inches in dimensions. The woman has gained strength and flesh, and now presents a robust appearance. I alluded to a feature in this case which I have witnessed in five other cases of fibroid, and I regard it as somewhat distinctive of this affection. At least, I have seen it in no other.

The condition I allude to is œdema of the cervix uteri. It does not appear in either the very earliest or later stages of the case, but at that stage where the submucous fibroid reaches a size sufficient to distend the uterine cavity to at least three inches in diameter, and begins to dilate and expand the cervix at the internal os. At first the cervix appears to be hypertrophied, but in reality is not. It is in a state of genuine œdema, accompanied with passive engorgement, doubtless due to obstruction to the venous circulation in the cervical vessels, itself due to pressure exercised on the vessels of the body of the uterus by the internal mechanical pressure of the growing tumor. In the cases coming under my observation the cervix presents a pale, livid complexion, and can be indented by pressure, the pit being of some duration, as witnessed in anasarca of the skin. The cervix is always twice as large as natural, and is soft, pulpy and putty-like to the touch.

I have never observed this pathological condition in any other affection of the uterus. In this class of cases, in proportion as the fibroid increases and uterine body expands and encroaches on the cervix, that portion of the organ is gradually obliterated, as in the advancing stages of pregnancy, when the local œdema disappears as the cervical obliteration progresses; and when the tumor has grown sufficiently large to expand and obliterate the cervix, then only the attenuated, hard, cartilaginous lips of the os uteri remain. At the stage of œdema the os is usually found in the centre of the pelvic axis. At a later period, when absorption has taken place, it is displaced, and is found either under the pubic arch or thrown back into the hollow of the sacrum, the distortion being caused by the expanding force of the internal growth.

On the contrary, when the growth of the tumor and the processes of reduction and absorption begin, then there is a reversal of changes in the condition of the os and cervix uteri. These portions of the uterus then gradually return to their former shape and softness, while the vagina, from a mere short cul de sac, regains its elongated, canal-like form.

Treatment—In the process of tumor building there are manifestly two opposite pathological conditions, one a positive, the other a negative character, existing. These conditions consist of increased cell proliferation and organic growth, and deficiency of tissue metamorphosis to counterbalance the act of superabundant deposition. Therefore, whatever in the way of diet, regimen, exercise, period of life or other circumstances may tend to increase cell proliferation beyond the powers of nature to maintain an equilibrium, will, when brought to bear upon the uterine structure, promote the fibroid growth. On the contrary, whatever of food, habits, medicine or period of life will correct this perverted state of the nutritive processes of the part will diminish abnormal cell proliferation and restore healthy tissue metamorphosis, and must curtail fibroid growth.

I think there can be no question that discrimination in regard to the character of the food used by these subjects exerts an influence over the growth of fibrous tumors. This accords with my own experience. The curtailment in supplies of those varieties of food containing largely, if not wholly, of amylaceous and fatty materials does retard these growths. On the contrary, they grow more rapidly when starchy and fatty matters are more largely consumed. Lean fresh meats, green vegetables and fruits containing but little starch, skimmed milk and eggs, I have found effected this object best.

Then the power of ergot to diminish the calibre of the nutrient vessels of the uterus, and in this way curtail the hypernutrition and growth of the tumor is so well understood as to require scarcely a notice here, barely excepting the special preparations of that article and the method of administration. I have found the so-called normal liquid ergot of Parke, Davis & Co. an excellent preparation for internal or hypodermic use, and I regard it as particularly well adapted to the latter. It is very unirritating, and acts with great promptitude in arresting hæmorrhage even of the greatest magnitude. I believe that the continuous internal use of this article in twenty or thirty drop doses three times daily will accomplish more in the end than the hypodermic method. With this may be alternated a pill after the following formula:

℞.

Ergotini	ʒij
Strychninæ	gr. i
Quininæ salicylat.	ʒiss
Acidi arseniosi	gr. i

1 gr. pil xxx.

One of these should be taken three times a day in connection with the following combination of remedies:

℞.

Flu. ext. hydrastis can.	℥ss
Aquæ cinnam.	℥v
Flu. ext. phytolaccæ, decand.	℥ss
Sodæ bicarb.	ʒij

M.

These remedies in this particular combination I have found useful in retarding and diminishing the growth of fibroid tumors.

The hydrastis and phytolacca both possess properties which give them power to retard abnormal uterine action and promote absorption. But I am persuaded that there are other thereapeutic agents which, acting on the blood formation and through the circulation, influence the process of nutrition, rectifying that important function, when deranged, in a remarkable manner and in that way correcting those excesses of local action which produce local disease and abnormal growths. Some years since, with a view of carrying into practice this idea, I began a series of experiments for the purpose of testing the influence on the progress and development of fibrous tumors by acting on the nutritive functions by means of those preparations containing phosphorus, lime and soda. I had at that time four cases of fibroid under my care. I selected to be used in these cases the syrup of the lacto-phosphate of lime and the syrup of the hypophosphites of lime and soda, as prepared by McArthur. That was about eight or nine years ago. Since that time I have had nine cases under my care. Six of these cases have remained under my inspection, and with one exception are so decidedly improved as to need no further treatment. The one exception came under my care during the spring, and is now improving under treatment. Three of these cases alluded to have left my vicinity and migrated to a distance. In these cases the syrup of the lacto-phosphate of lime and the syrup of the hypophosphites were administered in teaspoonful doses each three times a day continuously for months, and with slight intervals, so as to give rest to the stomach, for years, that there might be maintained on the system a permanent influence.

The character of most of the cases subjected to this treatment was of the most aggravated form, and had previously been treated by means of ergot internally and hypodermically, the bromides, etc., without in any way retarding their progress. In some constitutions the response to treatment is much more prompt than in others. Some cases improve up to a certain point, then cease and wait for the menopause to complete the process. Some recover entirely before that period, while others again are very resistant to treatment in any form. But the treatment by means of the phosphates has given me far more satisfaction than any other.

This treatment to produce favorable results must be pursued systematically, regularly, perseveringly and continuously. Taking a retrograde review of the cases treated by myself, I will state here that the first two cases which came under my charge about thirty-five years ago, in absence of knowledge of better remedies were both treated by means of liquor arsenici et hydrargyri iodidi in one and two drop doses continued for two or three years with occasional intermissions with a view to its alterative effect. The tumor in both of these cases was in the cavity of the uterus and submucous in character. The females belonged to the negro race and had borne children. In both there existed decided menorrhagia and one was subject to periodical hæmorrhages. In both cases also the uterus was distended so as to fill the cavity of the pelvis.

These cases are reported here and are of interest because of the results of the treatment.

In the worst case after three or four years' treatment by this remedy the tumor began to diminish and finally became entirely absorbed. The other improved but did not recover entirely until after the menopause. Ergot was also used occasionally in both to repress hæmorrhages. It was about this period that Dr. Simpson introduced his treatment by means of the bromide of potash.

I continued to use the treatment of Simpson I thought with some benefit, in connection with ergot up to the period when I adopted the use of the phosphates.

Subsequently to these two cases I tested further the powers of the solution of Donovan but was not so fortunate. The therapeutic action of the combination of the lacto-phosphate of lime and hypo-phosphites in the seven last cases, coming under my care, has been exceedingly favorable and has been of a twofold character.

The earliest perceptible effect exerted was on the tendency to hæmorrhage. In every case this tendency has been diminished and so decidedly lessened in most of them as to afford relief. In two cases one of which was the worst in this respect that I ever witnessed, the hæmorrhages were frequent and often dangerous in extent. This patient after taking these remedies for three or four months found herself without her usual hæmorrhages, and not long after found herself minus her menstrual periods. She at once became alarmed and protested that she would take no remedy which would affect her in this way. She had a firm conviction that her condition was due to the remedy used. It was suspended and after a few months the hæmorrhages returned. The remedy was a second time recurred to, and with a similar effect, and again suspended. Under treatment by the phosphates, and occasionally ergotine, and strychnine, the hæmorrhages finally ceased and the absorption of the tumors, there were three of them, progressed.

In the case of another patient while under the phosphate treatment a suspension of menstruation occurred and this patient refused to continue their use. While the tumor in this case was large and impaired the general health seriously, there were no hæmorrhages. The second effect of the phosphates in these cases is to promote absorption and arrest the growth of the fibroids. In all these cases there was arrest of growth and diminution. In several, to be more definite, in three, the diminution was very marked. In this case there was complete absorption. Thirdly, the action of the combined phosphates in these cases, in which there is always impairment of the general health, is to improve the condition in a manifest degree of the constitution and in every case have proven themselves genuine restoratives. In these cases in which our greatest renovator, *iron*, is inadmissible the phosphates fill a most important place.

Case I.—Mrs. M——, a lady, æt. about 32 years, the widow of a confederate officer who fell at the battle of Seven Pines only two months after marriage. She has never borne children. She had a submucous fibroid distending the uterus to the full capacity of the pelvic cavity. Her general health was much impaired from the depressing influence of hæmorrhages, pain and local irritation. I presumed that the tumor had been in progress at least four or five years. Various medicines as ergot, the bromides, and iodides with tonics were resorted to without benefit. About this time from some cause not well defined extensive bronchitis with some indications of hectic appeared. For this complication McArthur's syrup of hypophosphite was used which was subsequently united with the syrup of the lacto-phosphate of lime. The symptoms arising from the tumor improved so much as to justify their continuation. After a time all hæmorrhages ceased and menstruation became regular and the tumor began gradually to diminish and in two or three years of this treatment became so greatly lessened as to give no trouble. This patient subsequently removed from the city to a distant point. This was the first case in which I used the lacto-phosphates and hypophosphites in fibroid tumor of the uterus.

At this stage of our subject, for the purpose of illustration, I deem it proper to present the history of four or five cases in which this method of treatment was fully tested.

Case II.—Miss L——, a lady, æt. 30 years, unmarried. Had previously enjoyed good health. On examination three sub-peritoneal fibroids were found as large as the fist each. No pain or tenderness. Menstruation normal. This case came under my charge about fourteen years ago. For several years she took the chloride and bromide of ammonia. The tumors continued to increase, but gradually, until the abdomen attained the size of a pregnant woman at full term. In the mean time menstruation became irregular, accompanied with menorrhagia, which increased in extent every month until it amounted to alarming hæmorrhages. These hæmorrhages now became both frequent and dangerous in extent. The general health and strength at this stage became greatly depressed. The pulse was frequent and feeble. There was great emaciation, and the prostration of mind and body was so great as to confine the patient to bed. An examination made at the time these hæmorrhages began revealed the presence of a submucous fibroid. This increased gradually until the cavity of the pelvis was filled completely. When first detected there existed œdema of the cervix uteri. Ergot used hypodermically and internally, at first controlled the hæmorrhages, but when the walls of the uterus became thin, attenuated and paralyzed, the muscular tissues from over distension, then the remedy failed utterly, and injections of Monsel's solution in the uterus and tampons could only be relied on to arrest the terrible hæmorrhages. When these were arrested then followed a series of symptoms denoting septicæmia. With a view of improving the general health of the patient, I prescribed the syrup of the lacto-phosphate of lime and McArthur's hypophosphites of lime and soda. The general condition of the patient improved, and the tendency to hæmorrhages gradually diminished. It was continued, the patient in the mean time improving in every respect. It was now perceived that the tumors were gradually lessening. This patient in the past four years has undergone a great change for the better. The tumors in the abdomen are now so small as to give no trouble. The submucous tumor has about disappeared ; she has an occasional return of menstruation, but no hæmorrhage for nearly two years.

The general health and strength are good. In this history I have merely stated facts. We can draw our own inferences. I cannot for a moment doubt that the phosphate treatment was the chief factor in the improvement in this case.

Case III.—Miss P——, an unmarried lady, æt. about 32 years, came under my charge about eight years since. Her general health had been declining for several years. She suffered so much pain in abdomen and back as to disable her. A uterine examination in this case revealed the presence of a submucous fibroid, not only filling the pelvic cavity, but a subperitoneal tumor also jutting several inches above the brim. Notwithstanding this condition of affairs, menstruation had been regular as to time, but consisted largely of dirty reddish colored fluid. This patient took ergotine in combination with strychnia for several years, and occasionally arsenic, but without perceptible effect. She then took the phosphates with not only marked benefit to her general health, but with equal benefit to the local trouble. After its use for six months there was manifest reduction. But now this was attended with an entire suspension of the menstrual functions. At this the patient became alarmed and refused to continue the remedy. Subsequently I used, as applications to the os and cervix uteri, Churchill's tinct. iodine and flu. ext. ergot with good effect semi-weekly. These tumors are now so far reduced as to give the patient no trouble. Her general health is excellent, and her menstruation regular. In this case, twice a week, the iodine and extract of ergot were freely applied alternately, not only to the os and cervix but to the entire roof of the vagina. When the lacto-phosphate of lime was suspended the syrup of the hypophosphites was continued with excellent effect. The tumor in the cavity of the uterus has been almost absorbed, and whereas the vagina was, a mere short cul de sac, scarcely an inch and a half in length, the os being thrown up under the arch against the urethra it has now nearly resumed its normal length. The sub-peritoneal tumor is scarcely perceptible.

Case IV.—Mrs. H——, a married woman, æt. 35 years. I had treated this patient for endometritis several years previous to this, and after treatment she conceived and gave birth to a child. It was subsequent to this that a submucous tumor began to develop and give rise to frequent hæmorrhages and pelvic pain. This tumor continued to increase and distend the uterus until the cavity of the pelvis was not only compactly filled, but the organ jutted above the brim. Various remedies were resorted to in this case, among others ergot, hydrastis, phytolacca, the bromides. Finally some three years since she began the phosphate treatment and has maintained it steadily since. The tumor is almost entirely absorbed, and where the uterus was immovably fixed in the pelvis from distension of the tumor, the organ is now perfectly movable and measures about three inches in length. During the early stages of this case the cervix was for many months in a highly œdematous state. This woman has now been under observation for about eight years, and while she has suffered much from pain, and there was at one time great emaciation from constant loss of blood, there has never been at any time the least pyrexia.

The general health of the patient is now excellent and even robust. All hæmorrhagic tendency has entirely ceased. Menstruation is regular and normal.

Case V.—Mrs. D——, a married woman, æt. 52 years. This patient in early life had borne children. For some years previous to the development of tumor she had been subject to endometritis. Between the years 1878 and 1883, I removed two polypi of considerable size from the uterus. About five years since a submucous fibroid began to develop, accompanied with much hæmorrhagic tendency. The uterus in its cavity measured around the growth four inches. The os and cervix for twelve months were much enlarged from œdema. An impression firmly made by an instrument left an indentation similar to that in anasarca. The cervix measured at least two inches across.

Twelve months ago I adopted the use of the phosphates in this case in connection with the flu. ext. ergot and flu. ext. hydrastis canadensis, internally. I also applied semi-weekly Churchill's tinct. iodine and the extract of ergot alternately. There has been very decided improvement in this case in every particular. The hæmorrhages have ceased entirely. The tumor is very greatly reduced. The menstruation at this late period continues regular, and the general health is good.

In these cases of excessive hæmorrhage it is our duty not only to adopt means to arrest the immediate attack, but to go further than that and so shape our treatment as to control or subdue that tendency. I believe the phosphatic treatment persistently pursued; the ergotine and strychnia internally, and the local application of the iodine and the extract or normal liquid ergot alternately every third day will so impress the general and local circulation and the process of nutrition as to regulate this peculiar tendency.

I attach very considerable importance to the influence of local treatment applied in this way as a means of aiding in controlling hæmorrhage, and promoting the reduction and absorption of the fibroid. The iodine and ergot are both readily absorbed and exert their peculiar influence with more or as much force than when taken internally. At all events in my hands the practical results have been good.

Case VI.—Mrs. M——, a colored woman, æt. about 40 years. The case came under my charge in March last. The woman had three subperitoneal tumors, each being about three inches in diameter. There exists also in the uterus a small submucous tumor. She came under my treatment for metrorrhagia and very soon after peritoneal inflammation set in. After the subjugation of the peritonitis, she took the following formula:

℞.	Ergotini	f ʒi
	Strychninæ	gr. ½
	Acid arseniosi	gr. i
	Quininæ sulph.	ʒi

M. pil. No. xxiv.
One after meals.

The action of this not being favorable, she took a teaspoonful each of syr. lacto-phosphate of lime and syr. hypophosphite of lime and soda before each meal and twenty drops each of the flu. ext. hydrastis can. and phytolacca decand. after meals. The hæmorrhages have ceased. The woman has gained sufficient strength to resume her vocation, and the tumors have rather diminished than increased as before.

For the purpose of illustrating more clearly my experience in the use of these preparations as correctives of the more acute forms of perverted local nutrition and as means of promoting absorption of inflammatory products, the results of this malnutrition I will diverge from the subject of the treatment of fibroids and present here a statement of my personal observation of their peculiar action in acute adenitis whether simple or contagious in origin. In my statement of the history of the following cases I confine myself to simple facts alone.

Case I.—A girl, æt. 9 years, had a scarlatinous rash and sore throat. After the subsidence of the rash, tonsilitis of a very aggravated form developed. The cervical and sublingual glands now becoming infected a violent and painful form of adenitis appeared, in which the swelling and œdema became so extensive as to endanger life. The usual standard agents in these cases were tried but without results, and the case presented an exceedingly unfavorable aspect. Without much definite expectation of favorable results, the lacto-phosphate of lime in drachm doses was given three times daily, and McArthur's hypophosphite in fifteen-drop doses every two hours. In twenty-four hours the progress of the adenitis was arrested. In forty-eight hours there was a manifest decline in the enormous swelling so that the child could begin to take nourishment. In three days the improvement was so decided as to make it certain all danger had passed, and convalescence was speedy.

Case II.—After a severe attack of measles, this, a child æt. 2 years was attacked with extensive adenitis of the glands of the neck which threatened to prove fatal. The same remedies as in the former case were administered in this, and while not quite so speedy in their action in arresting the morbid process and promoting absorption, had within a week placed the patient beyond all danger. In both of these cases resolution was complete, and all tendency to suppuration prevented. The prevention of the pyogenic process is one of the most conspicuous effects of the phosphate treatment.

Case III.—A child, æt. 3 years. After apparent recovery from attack of scarlet fever, was attacked with a very violent and grave form of adenitis of the cervical glands. Very soon the pulse became exceedingly frequent and the temperature amounted to 106½°. The swelling of the tissues of the throat and neck became so great as seriously to interfere with deglutition. The only treatment in this case consisted of the administration of one grain of antifebrine every three hours, and fifteen drops of the syrup of hypophosphites every two hours and half drachm of syrup of the lacto-phosphates of lime three times daily. The improvement, in all the symptoms, in this case was rapid, and within a week the recovery was complete.

Case IV.—A young married lady of strumous tendency, and very delicate constitution, from supposed effects of cold had an adenitis of violent character involving the glands of the throat and neck, accompanied with very extensive œdema, and great febrile reaction. This patient took every three hours, thirty drops of McArthur's preparation of hypophosphites and the lacto-phosphate of lime three times a day. The restoration of this patient was complete within ten days. It will be observed in the reports of these cases that the effect of the remedy in all was to arrest the progress of adenitis, to prevent suppuration, and lastly, to cause rapid absorption of all exudative products. It will also be seen that the remedy was given in small doses and at frequent intervals. The object of this was to accomplish the saturation of the system with the agents as speedily as possible.

After witnessing the really marvelous effects of these agents in acute-glandular affections I am constrained to believe that they must exert a very great influence on the functions of that system generally as well as on the process of metamorphosis of tissue by promoting its disintegration and removal.

In the administration of the hypophosphites and lacto-phosphates in cases of grave malnutrition giving rise to serious local lesions, excessive exudation of morbid products or of abnormal cell proliferation producing unwonted tissue growth endangering health and life, I have found them to accomplish more than any other remedies. I wish to dwell more forcibly and specially on the necessity of the rapid and thorough *saturation* of the circulation with the phosphates of lime and soda, as a means of restoring the lost equilibrium of nutrition, arresting increased cell proliferation and exudation and promoting their absorption. Therefore, I contend these agents have not been given in sufficient quantity heretofore to regulate the process of nutrition. I have in grave and serious cases administered as much as a drachm of the syrup of the hypophosphites every two or three hours and two drachms of the lacto-phosphate three times daily until the object was attained. In summing up the results of medical treatment of fibroid tumors, it may be stated, that the continuous administration of ergot in the form of ergotine or fluid extract, does retard the fibroid growth does lessen the tendency to hæmorrhage, and in certain stages of fibroid growth, on occasion of hæmorrhage, given hypodermically or per arm will arrest it. But at an advanced stage, when the growth of submucous fibroid becomes very great and the walls of the uterus have become very thin and attenuated from over-distension and absorption and paralysis of uterine muscle, then the ergot ceases to act as an hæmostatic. The fluid extract of hydrastics does act on the growth of fibroid to a limited extent by diminishing the circulation and also lessens the tendency to hæmorrhage. In my experience it acts better when given in combination with the phytolacca decandra.

Local treatment by means of iodine and ergot applied extensively over the cervix and roof of the vagina give important aid in promoting the same therapeutic results.

By a judicious and timely combination of the various therapeutic agents referred to in this paper I believe the great majority if not all cases of uterine fibroid may be shorn of their worst features; that the sufferings of those so afflicted may be greatly alleviated; that life may be prolonged; that all may be benefited and certain proportions cured. I am in a position to assert truthfully that benefit has resulted from treatment in every case when the patient was under charge sufficiently long to get fully under the influence of medical treatment. Hence, I am convinced by a long and not very inconsiderable personal experience that medicine can do much and is capable of doing still more in the future for the benefit and relief of these cases.

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SELECTIONS.

PRACTICAL OBSERVATIONS ON SENILE HYPERTROPHY OF THE PROSTATE GLAND. By D. Hayes Agnew, M.D., LL.D., Professor of Surgery, University of Pennsylvania.

The vesical troubles, which constitute the bane of advanced life, are chiefly due to changes occurring in the prostate body, which interfere with the thorough expulsion of the urine. The portion, however small, remaining in the most dependent part of the viscus, eventually undergoes fermentation, causing first, irritation and finally, inflammation and vesical catarrh.

The degree of obstruction cannot always be predicted by the size of the prostate, as revealed to the touch made through the rectum. In many instances the hypertrophy is largely in the direction of the bowel, and consequently may not encroach upon the lumen of the urethra. In other cases, the enlargement is symmetrical and the same absence of urethral encroachment will be noticed. When the growth proves to be asymmetrical, even though the body appears small to the touch, we may expect to find an obstacle present to the outflow of the urine, this obstacle being caused either by alteration in the direction of the urethral canal or by the latter being partially blocked by the upward projection of the middle lobe.

Obstruction often has a relation to the particular form which the hypertrophy assumes. The prostate consists of three kinds of structure, being muscular, fibrous and glandular, and any one of these elements may preponderate over the others. That is to say, the chief mass may be a fibroma, an adeno-fibroma, an adenoma or a myoma. The enlargement is a true neoplasm and not, as some would insist, merely a physiological process. Like in the uterus, for which it is the analogue, the new formations are associated with the culmination of the life forces and occur at a period when deterioration of tissue may be expected.

The evil or secondary effects of obstructive hypertrophy of the prostate, are vesical irritability, retention, incontinence, and cystitis with its consequences. Peripheral enlargement, that is when the growth increases in the direction of the rectum, does not in itself cause serious obstruction to the flow of the urine. Many aged persons furnish examples of enlarged prostates from which no further inconveniences are experienced than simply a little delay in starting the stream, the slowing of the latter and an inability to quickly get rid of the last drops, requiring more than the usual time to empty the contents of the bladder, nevertheless accomplishing the act perfectly.

The advice which should be given to such persons by the family physician may be summarily comprehended in these words: "Take your time." It is useless to make strong voluntary efforts to hurry the micturition, indeed such efforts tend to stop the stream entirely by the levator ani muscles raising the prostate and thus closing the vesical orifice of the urethra. The urine should be allowed to flow, with scarcely a conscious effort, and when near the completion of the act if the penis be elongated by traction made with the thumb and finger, the last drops can be easily coaxed out by the vigorous action of the compressor urethræ and the levator ani muscles. If the patient becomes impatient before this is effected, he will, in all probability, leave a small portion of water in the bladder, which as time passes on, is bound to cause mischief.

We are, of course, not to ignore general measures, as the use of flannel underclothing for the body, protection of the extremities and feet against dampness and cold, abstinence from the use of highly seasoned foods and alcoholic stimuli, and the careful regulation of the bowels.

Retention.—It is no uncommon event for a person in the condition named above, or, indeed, in any of the varieties of prostatic hypertrophy, to find himself after exposure to cold, or in consequence of a debauch, or from long retention of the water, suddenly unable to pass urine. The urethra is closed by venous congestion of the prostate. Ordinarily a few leeches to the perineum followed by hot applications and a large enema, if any rectal accumulation exist, will rapidly resolve the swelling and restore the power to urinate. If the case is not urgent, these agencies may precede any operative measure; but if the necessity for prompt relief exists, then the catheter must be employed, and usually its introduction, if skillfully managed, is not a difficult task in simple cases of retention. But just here, let me sound a note of warning in regard to the use of the catheter in complicated cases. Many lives have been lost by long continued or by maladroit attempts to enter the bladder through the urethra. Instead, therefore, of persisting in futile attempts to reach the bladder through the urethra, resort should be had to the very simple and safe operation of suprapubic aspiration. This may be repeated, or what I prefer, is to leave the canula in the bladder for two or three days or until the swelling of the prostate subsides, and either the voluntary power to pass the urine is regained, or the difficulty in the way of using the catheter disappears.

Incontinence.—Incontinence of urine is very commonly due to retention, the former condition being due to overdistension of the bladder. I could relate many sad cases of this nature, which have come under my observation, where the medical attendant has failed to recognize the true state of affairs, and supposed that because the patient was frequently passing water, therefore no accumulation could exist. It is an unfortunate mistake, for the muscular walls of the bladder of an old man, which have once been allowed to become overdistended, may never recover their power, but often remain in a state of paresis. Dribbling of the urine results and frequent catheterization is required to prevent inflammatory infection; a result which cannot always be escaped. Incontinence demands catheterization, washing out the bladder, hypogastric massage and strychnia.

Cystitis.—Inflammation of the bladder, unless brought about by instrumental violence or septic catheters, is due to the fermentation of retained or residual urine, and is pregnant with evil. In its train follow urinary intolerance, vesical spasm, submucous hæmorrhages, ulceration sacculation, phosphatic deposition, disease of the ureters and kidneys, and uræmic fever. To anticipate and prevent cystitis, should be the dominant thought of the physician, when intrusted with the care of prostatic hypertrophy, for when once entrenched, it is rarely conquered permanently. What signals foreshadow its approach? Among the earliest is vesical irritability, expressed in the desire to urinate with unwonted frequency, the act of micturition not being followed by a sense of completeness or satisfactory relief. Nothing can be more suggestive.

The time has now arrived for settling the question of residual urien by the catheter test. The first catheterization is a most important operation This instrument is usually the vilest one belonging to the surgeon, and may convey into the bladder organic impurities, calculated to produce ammoniacal and other fermentative changes of the urine, which cause both local and general disturbance of the system. Catheter fever is often septic fever. The instrument, therefore, should be rendered entirely aseptic, by being placed for some time before being used in boiling water, subsequently washed inside and outside with carbolized water (1 to 20). When the soft or rubber catheter is selected for the purpose, it is sufficient that it be washed with carbolated water.

To make a satisfactory examination of the bladder, the patient must be directed to pass his water, after which the instrument, smeared with carbolized cosmoline or oil, should be introduced. If following the introduction, a tablespoonful of water is withdrawn, the fact of residual urine is established and the key to the situation is now in the hands of the patient. He must be instructed how to use the instrument without force, for fear of causing an abrasion of the mucous membrane of the urethra, and thus opening the door to infection. Once every twenty-four hours (preferably on retiring to rest) the urine should be drawn, at the same time never forgetting the disinfection of the instrument, both before and after the operation. If this course be rigidly followed, the risk of catheter or urethral fever will be minimized, and cystitis with all its horrid consequences be avoided. More than this, the hypertrophy of the prostate will in very many instances be arrested; for I am sure that the constant teasing of the bladder by spoiled water, and the vesical tenesmus which not uncommonly follows, are influential factors in producing hypertrophy of this body.

In those cases where the hypertrophy of the prostate is progressive, and where in consequence, the calibre of the corresponding portion of the urethra is diminished, presenting more or less resistance to the use of the catheter, several devices have been suggested and practised to enlarge the canal, as the use of graduated metal bougies, or closing the meatus between the thumb and finger, and thus distending the urethra by preventing the escape of the urine. These methods have nothing to recommend them. The first procedure has a tendency to cause irritation and congestion of the prostate, and the second favors dilatation of the bladder and ureters. Ergot has been extolled as a remedy in cases of continued enlargement of the prostate. It is thought that by virtue of its physiological action on smooth muscular fibre, contraction of the coats of the blood vessels and of the muscular portion of the gland must follow its use. Though I have often used the drug, I have not seen any very conclusive evidence of its favorable action. Newman and others attach considerable importance to the galvano-cautery, as a means of lessening the nutrition and arresting the growth of these enlargements I know of only one measure by which the hypertrophy under consideration can be permanently modified and often arrested, and that is by PROSTATOTOMY. All surgeons must have noticed that after the lateral or median operation for stone in the bladder in aged persons with enlarged prostates, the latter have undergone marked atrophy in the course of the healing; and it is this operation which I believe has a future in surgery. The procedure is a simple one and with care does not seriously jeopardise life.

Prostatotomy is simply the median operation as done for stone in the bladder. The conditions which, in my judgment, justify recourse to this operation, are *first*, when there is a steady increase in the growth of the prostate in a direction which causes marked obstruction to the flow of the urine, rendering the frequent use of the catheter necessary and difficult of execution; *second*, in cases in which cystitis is commencing or already exists, as revealed by the mucous and muco-purulent deposits in the urine; and *third*, when violent spasms of the bladder set in, either with or without the capacity of voluntarily passing the water.

I have long doubted the wisdom of resorting exclusively to the use of the catheter in these cases of frequently recurring vesical spasms, for the time will certainly come, if this practice be continued, when the bladder will forget the normal way of expelling its contents, and no amount of will power on the part of the subject can recover it, the patient being then wholly at the mercy of his instrument. It is true that vesical tenesmus alters the form of the bladder, pouching the *bas-fond*, and thus increasing the difficulty of expelling the urine. It is true also, that these spasms can be controlled by the use of opiates, given in the form of suppositories by the rectum, or hypodermically, but neither catheterization nor opiate will do more than simply palliate, and with these disadvantages, that the use of the intrument every three hours or oftener, becomes an intolerable tax, aside from the liability of inflicting a lesion on some portion of the urethral tract, while the repeated use of anodynes gradually confirms the opium habit upon the patient, of itself an evil as great as the disease for which the drug is administered. For these reasons I would urge prostatotomy with drainage.

The advantages claimed for median prostatotomy with drainage, are vesical rest and atrophy of the prostate body. It clears up every obscurity about the case. If an adenoma, or a fibroma happens to be present it can be shelled out; if a stone is concealed in some pouch or recess of the bladder, it can be extracted and a great source of irritation at once removed. It offers the only hope of a cure of cystitis, or if not a cure, such relief as will make life comparatively comfortable. In four instances I have seen persons reduced almost to the door of death, not only relieved of distressing pain, but restored to fair health and usefulness by this operation. Two such cases are at present under my care, one of which promises to make a good recovery, and probably the other also, though sufficient time has not elapsed to speak with certainty. If such results can be obtained by the operation in extreme cases of hypertrophy with cystitis; how much more confidently may we expect to effect a radical cure, in the early stage of the disease before the cystitis has become entrenched in the bladder.

The operation of prostatotomy does not differ, as far as the division of the structures is concerned, from that of median lithotomy. After the prostate is incised and the bladder opened, the viscus should be well washed out with a solution of boric acid, and a soft catheter of large calibre introduced and secured in place. The catheter ought not to be carried too far into the bladder for fear of infringing upon its posterior wall and thereby exciting pain and spasm. After the fourth day the instrument should be removed, and, if free from incrustation, cleansed and replaced. If roughened or in any way damaged, a new one will be required. Throughout the entire course of treatment, the catheter must be removed and cleansed at least every third day. Once every day the bladder is to be washed out. The particular solution to be used can only be determined by finding out how this or that one consorts with the temper of the bladder. Generally it will be found that one of the following will answer every purpose: Boracic acid (gr. v—viii, water, ℥i), biborate of soda (gr. iii, water, ℥i), or hydrastis canadensis, glycerine and water (fluid extract of hydrastis. gtt. x—xx; glycerine, ʒss; water, ℥ii—℥iii). If phosphates form in the bladder, two or three grains of the acetate of lead to the ounce of water will act as a solvent. A very weak solution of permanganate of potash may also be found beneficial. It is desirable to introduce into the bladder not more than three, or at most four ounces of any of the washes.

The time usually required to keep up the drainage is from six to twelve weeks. After the perineal wound heals up around the catheter the patient may be allowed to sit up in a chair with a false bottom, through the opening of which the tube can lie, a vessel being placed beneath to receive the urine. The time to remove the drain-tube will be determined by the absence of deposit in the urine, or, when the operation is done before cystitis develops, by the atrophy of the prostate. After the removal of the tube it is more than probable that a small fistulous orifice will remain for a long time, but the inconvenience resulting from the escape of a few drops of urine during micturition will prove of small importance; indeed, in two of my cases, the patients keep these small tracts open, introducing through them a very fine soft catheter, and occasionally washing out the bladder by this route, rather than by the urethra, a precaution which should be observed at intervals of every few days, in cases where cystitis has previously existed.

ON THE ELECTRICAL TREATMENT OF DISEASE OF THE UTERUS.*

By Sir T. Spencer Wells, Bart., F.R.C.S.

I have had perhaps a longer and more varied experience than most men in dealing with uterine diseases, especially those which are characterized by overgrowth. I have so constantly had to regret the inefficiency of medical treatment, and the results of surgical operations, though sometimes brilliant, have often come so short of my desires, that I have, for many years past, fallen into a frame of mind readily disposed to listen to any suggestion of a mode of treatment which offered a reasonable chance of success, and avoided the risks and perils attending bolder practice.

So when reports reached me from Paris of what Dr. Apostoli was teaching and doing, they came with a welcome ring. Electro-therapeutics were no novelty to me. More than thirty years ago I had put galvanism to the test, and had gathered in various ways evidence of its potency both in destroying and repairing tissues. What I had learned of the treatment of ulcers by galvanism was published, in 1849, by Golding-Bird, and may still be read in an appendix to his book; but his son and Mr. Nunn are the only surgeons, so far as I know, who have made much use of the practice. Not long afterwards I tried the galvanic stem pessaries of Simpson in amenorrhœa, and have used them until now with occasional good result. I knew also what Radford had done with galvanism in the treatment of uterine hæmorrhage, and what Simpson had taught us as to the influence of galvanism on uterine contraction in labor. I have repeatedly made use of the galvanic cautery in various ways, and have very often removed masses of epithelioma, or the cervix uteri itself, by a platinum wire heated by a battery and used as an ecraseur, with very satisfactory results. Quite recently, with Dr. Goddard, of Highbury, I removed a cervix uteri without the loss of one drop of blood. My attention was later on attracted to the electrical work of the French and Americans in reference to fibroid tumors of the uterus. This was so little satisfactory that it dropped out of notice. Our English experiments were not more encouraging, and surgical enterprise seemed destined to throw into the shade all less dazzling endeavors.

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*Read before the Brighton and Sussex Medico-Chirurgical Society, May 3, 1888.

In the mean time, taking up the idea of the wonderful influence of galvanism upon the nutrition of tissues, Apostoli was unobtrusively resolving the problem of its right application in the treatment of abnormal growths and exudations. His published observations were so interesting, and the reports of eye-witnesses were so confirmatory, that, in the autumn of 1886, I determined to see and judge for myself. I went to Paris, and was received frankly and cordially. Dr. Apostoli explained to me his views, and demonstrated his mode of procedure. He threw open the records of his daily practice, and gave me the opportunity of verifying his diagnosis and witnessing his treatment of the cases actually under his care. Besides this, he mustered for my inspection about sixty of the patients who had passed through his hands. I heard many of their histories in their own words, and could contrast for myself their actual condition of good health and activity with the symptoms reported in the early notes of their attendance, and the deformity represented in the plaster casts of their bodies, taken before the tumors had been influenced by the galvanic current. I spent many laborious hours in what I may say was a rigidly sceptical examination of the evidence before me, seeking for weak points in the system, and the resolution of theoretical objections.

The conviction was irresistible that, though the method might not have reached its point of perfection, the work, so far as it went, was good. If the women were not radically dispossessed of their tumors, they were symptomatically cured. Nothing but prejudice could have turned the back upon the facts; and it would have been unjust not to put the matter to further proof. This I have unhesitatingly done. If I have hitherto been silent, it was because I did not wish to prejudge the case. But I have not been inactive, for I wished that, if the utility of the method could be made as manifest here as elsewhere, it should be advocated impartially, and presented to the profession upon reasonable grounds.

The uterine diseases which come under Dr. Apostoli's care range through all degrees of fibroid development. He has to deal, as we all do, with simple cases of sub-involution, general hypertrophy of the organ, with metritic deposits all round, polypoid excrescences in the cavity, thickening, more or less irregular, of the walls, and sub-peritoneal outgrowths, expanding into abdominal tumors. Practically, all these cases group themselves into two classes: first, those which give no trouble and may be left alone; and, second, those which threaten health and life by loss of blood, or, by mechanically interfering with the organic functions, cause a multiform series of distressing symptoms.

In the treatment of these conditions, instead of scraping and cauterizing the cavity with a curette, or caustics, or fire, Apostoli does the same thing with a pole of the galvanic battery. We give ergot, or mercury, or iodine, or bromine in the hope of altering the nutrition of he diseased mass; he sends a disintegrating current through it. We castrate to cut short a woman's sexual existence; he seeks to quiet down neurotic sensibility, and induce regularity of ovarian function. Where we proceed to a root and branch extermination he proposes a denutritive paralysis of the uterine substance. Time will show whether, and how far, he surpasses us in his results.

But the novelty, at present, is not so much in the fact of electricity being used, as in the mode of using it. Others have tried the same means, but not in the same way. Former methods were uncertain, dangerous, and insufficient. The point that Dr. Apostoli has arrived at is this: he has studied the effect that certain currents will produce; he measures the intensity of those currents, and he has found the means of safely directing them, of proper force, through the diseased tissues, to insure the partial, if not complete, disorganization of these tissues, with the desired coincident relief of suffering, and often with restoration of general health.

It is the continuous galvanic current which is generally brought into action. For this purpose the operator must be provided with an apparatus which will guarantee him an unfailing current of at least 250 milliamperes, or electro-therapeutic units. I may say, in passing, that it may probably be found convenient to speak of milliamperes as "*units*" of current strength,—10, 20, or 60 milliamperes, for example, would be 10, 20, or 60 units. In practice at the hospital or the surgeon's residence a battery of Leclanché cells answers admirably. It is enduring and easily manageable. For work at the patient's home a portable battery of the bisulphate of mercury is convenient, but it requires great care and frequent renewal. An indispensable accessory is the galvanometer. With a fractional deviation, it gives a measure of the intensity of the current passing. The graduation should rise to 250 units, or milliamperes, though this intensity is rarely wanted.

Before every operation the perfect working order of battery, galvanometer, and conducting wires should be ascertained. As it is a characteristic point in the Apostoli practice that the galvanic current should be carried either into the cavity of the uterus or into the substance of the tumor, appropriate sounds and trocars are essential. To avoid loss of power by action on the metal the sounds are made of platinum. For punctures with a negative current steel trocars are equally good, but when it is intended to transmit a positive current a certain length of the sharp end of the trocar must be of gold. All that portion of the sounds and trocars passing through the vagina from the handle of the instruments to the mouth of the uterus or point of puncture must be insulated. Before every examination or operation the closest attention should be given to antiseptic precautions, both as regards the patient, the operator, and the instruments. During the whole course of the treatment vaginal irrigations with sublimate or phenol are never to be neglected.

The labors of Apostoli have expanded and given a definiteness to our knowledge of the special power of galvanic currents in the treatment of uterine diseases, and of the mode of applying the current in a way which I may thus resume.

In the first place, we have learnt from him better to understand the double action of the uninterrupted continuous galvanic current. The one action is purely local, and coincident with the flow. The tissues immediately in contact with the pole which delivers it are decomposed. The bases and acids of the substances and fluids acted upon are set free; and according to their nature, produce cauterization of the surrounding parts, independent of any thermic influence. This effect is local, immediate, and visible. The second action is due to the interpolar passage of the current. It is a *trophic* action influencing the nerves, vessels, lymphatics, followed by molecular changes so as to modify the nutrition of the tissues through which the current goes, and varying according to the pole employed. The effect of the direct and of the secondary counter current is durable; and, whatever may be our interpretation of it, it is remedially of far more importance than the mere galvano-chemical cauterization.

Secondly, though the coagulating power of the current passing from the positive pole was known from the writings of Ciniselli and A. Tripier, we have had disclosed much more since as to the distinctive character of the action of the currents from the two opposite poles. It was with the positive current that Apostoli began his attack upon uterine fibroids, because of the more striking nature of the hæmorrhagic symptoms, and it was the speedy relief of this grave trouble by the production of a hard, dry eschar and resisting cicatrix which encouraged him to persevere. The eschar resulting from the alkaline caustic action of the negative pole is just the contrary, softening and liquefying, and tending to promote discharge and hæmorrhage. Logically enough, its dissolvent powers were applied to the opposite class of cases, where there was no hæmorrhage, and the object was rather to reduce the bulk and solidity of compact masses of fibroid material. Experience has proved this to be as good in practice as in principle. The positive pole is therefore designated as anti-hæmorrhagic or hæmostatic, while the words " hæmorrhagic or denutritive " are applied to the negative pole.

Thirdly, Apostoli has taught us a much more satisfactory way of utilizing these currents in uterine disease. His predecessors had used currents which were generally uncalculated and ineffective. They were not often strong enough to do much good, yet at other times sufficient to bring about mischievous results. They were brought into play in an ill-judged fashion, and when used by means of punctures, the punctures were made through parts which ought to have been left untouched. Now the operation is performed under such control as to be a matter of measurable certainty. A strong and regular current is at command. By means of the galvanometer a knowledge of the exact intensity of the current employed is insured. The dosage can be regulated in proportion to the cauterizing and trophic effects considered necessary. A current of high intensity can be made to traverse the tissues inoffensively, and brought out through the abdominal integuments in a dispersed fashion without more than a temporary blush, and made to complete the circuit through the cutaneous electrode imbedded in wet clay. Than this clay nothing as yet has been found more effectual. Then, by insisting upon the intra-uterine introduction of the current by means of the uterine sound, or its direct interstitial application through the inattackable trocar, a certainty of action is obtained which was otherwise out of reach. The whole performance is thus strictly at the will and under the control of the operator, who, granted his mastership, wants no other guide either as to dosage, direction or duration of the current than the facial expression of the patient or her declaration of tolerance.

Fourthly, other important points upon which we have clear and definite information are the modifications which this treatment requires according to the varying nature of the cases, and the successively changing circumstances of each case as the treatment is going on, and the wide range of uterine affections to which it is adaptable. Given a tumor and a current, there is no such thing as reciprocal automatic action. At every step of the process of cure, deliberation, judgment and promptitude of resource are challenged. One day there is an unaccountable power of endurance, another an exaggerated sensibility; one day a perplexing structural resistance, another an easy flow of current—all of which have to be taken cognizance of, and throw an ever-recurring strain upon the mindfulness of the surgeon, enough to baffle book-guided novices and make inestimably valuable the more than five years' experience to which we can recur for counsel. A field, too, is opened up for exploration among the infinitely multiform presentations of disease of the female generative organs untraversable by the limited powers of any one man, but to which Apostoli has pointed the way. This will be the work of the coming generation.

Lastly, there are several interesting questions upon which the work of Apostoli has thrown a new ray of light, such as the dangers and difficulties of the procedures; their being a cause, or the reverse, of subsequent sterility; the practicability of applying the treatment in cases where the uterus is impenetrable; the permanence of the benefits derived from the treatment in the mitigation of the symptoms and the reduction of the tumors; the relation of the menopause to the production or dispersion of fibroid enlargements. It would take up too much of your time if I were to consider these in detail, and it is needless, as Apostoli himself is here, on the invitation of your president, to give any required information.

But admit that there may be danger in treating our patients by electricity. Is this a reason for rejecting it? What surgical operation is free from risk? Would common sense sanction our leaving disease alone till science has reached completion and skill infallibility? The danger lies, not in the method, but with the operator; and the moral is, that no man should undertake this work till he has qualified himself to do it well.

Then, as to the permanence of cure, where cure there has been, one can only say that, though five years and a half is but a short term to form estimates upon, when we are assured that during that time the return of symptoms or the necessity for further measures has been quite exceptional, it augurs well for the future, and the objection of the possibility of relapse becomes of little weight.

Again, when Apostoli tells us that some of his patients now under treatment are women in whom the tumor developed after the menopause, no trace of such a growth having previously existed, what are we to say to the principle of Hegar's operation? To say the least, it would limit castration in the treatment of uterine disease to the cases where loss of blood is the prominent symptom in younger women. I might go on much farther, but I think I have said enough to show that whatever may be or may not be the merits of Apostoli's method, we have made since he began his work a distinct scientific advance. And coupling the specific information we have thus acquired with our previous diagnostic tact and pathological exactitude, it appears to me that we are in a better position, even supposing that circumstances hinder the personal practice of the method, not only to discuss the abstract principles upon which it is based, but, as consultants, to pronounce upon its respective applicability to the cases submitted for our opinion.

There are conditions of fibroid tumors in which it would seem to me almost idle to suggest electricity. A polypoid growth from the mucous surface of the uterus projecting into the cavity, or perhaps through the os, can be so easily and expeditiously taken away that I should not think of any slow or gradual process. Neither does it appear very probable that a sub-peritoneal outgrowth from the body or fundus of the uterus could be in any great degree affected by any current that could be made to reach it. Myomotomy would be then the work of minutes, and the risk scarcely worth mentioning. Even large, solid tumors, the removal of which means the removal of a great part of the uterus, have been successfully removed by me and others, and success has increased with experience But the risk must be always great, and there are tumors so large, or with such intimate connections, that no prudent surgeon would meddle with them. Here, surely, is the occasion for the electrician to show his power. His method is a new resource for a desperate condition, and should be welcomed as such. It has been successful in such cases; if not completely so, yet to a degree which has rendered life enjoyable. No weak prejudice should stand in the way of recommending a trial under experienced guidance.

Where the object is mainly to suppress hæmorrhages, electrical treatment has decided advantages over other practices. Should the tumor be growing, but not advanced beyond the limits of reasonable surgical interference, balancing the comparative risk, I should be disposed to put the matter to the test, since, in case of failure, the more hazardous operation of removal can still be done. In my opinion, with the option before her, it would be neither wise nor charitable to give a patient strong advice in favor of an immediate cutting operation.

Experience seems to show that there is a group of cases, numerous as they are troublesome, of chronic metritis, with enlargement and surrounding deposits, which may be cited as pre-eminently eligible for electric treatment. They are, as regards the patient, painful and exhausting. To the judicious surgeon they are exasperating by their rebelliousness, and in some rash hands they have opened the way to practice more lamentable than the disease. It will be one of the crowning merits of electro-therapeutics if proved to be equal to bring relief to these patients. Recent reports give good reason to hope that this end may be realized by a careful use of the positive galvano-puncture.

We have not, I am inclined to think, taken heed enough of the work of Tripier and Apostoli in reference to various disordered states of the uterine appendages. The soothing effect of the vaginal or uterine bi-polar application of the induced current in some distressing forms of ovarian neuralgia and of vaginismus is said to be marvelous and enduring.

As a last word, I may say that we are face to face with an important revival; and though some American surgeons have gone before us in its acceptance, nowhere more than in our own country has there been shown an open-minded readiness to weigh fairly all the evidence which Dr. Apostoli has to set forth in support.

In London we have heard through the medical journals of some failures, of one death, and of more than one accident, probably due to the inexperience of the practitioners. But we have far more encouraging reports from Edinburgh; and if some member of this Society who combines sufficient knowledge of electrical science with practical experience of the diagnosis of uterine diseases, and of the treatment by other methods, will carefully put to practical test the conclusions already arrived at by Dr. Apostoli, I am very hopeful that the result will not be disappointing.

EXTRACT FROM AN ADDRESS ON MEDICAL EDUCATION AND THE DUTY OF THE COMMUNITY WITH REGARD TO IT. Being a Report of an Introductory Address Delivered at the Opening of the New Buildings of the Sheffield Medical School. By Sir Andrew Clark, Bart., M. D., F.R.S., President of the Royal College of Physicians, and Consulting Physician to the London Hospital.

And now, my dear fellow-students, I address myself more particularly to you, not merely as fellow-laborers in the work which to-night we are beginning, but also, I have already said it, as the chief objects of our interests, our sympathies, and our hopes. For the part which you have undertaken to play in this work is not an easy one; you are inexperienced in playing it, you are unacquainted with the best way of dealing with its difficulties, and yet all that is most desirable in your future, and all that will prove most precious to you in life depends upon your ability to perform this part aright, and to sustain it with vigor. Hence it happens that I, an elder student and also a teacher, am here to-night to help you, out of the treasury of my experience, with such counsels and cautions as may save you from the troubles which I and others have endured, and enable you to succeed where I and others have failed. Now, my counsels and cautions will relate only to your general work and life. For your special work in the various departments of medicine I must refer you to your different teachers, who are both able and eager to give you all the help that you may need.

My first counsel to you is to continue with a loving care the sacred traditions of your homes, to preserve a religious faith and life, and to regard as groundless the statements of those who, in the name, but without the authority of science, declare that our ideas of God and immortality are but subjective superstitions. Do not be frightened from your faith by such allegations as these: That God cannot be personal because personality implies limitation, and that He is unknowable because His existence is incapable of verification. Such statements are ignorant, foolhardy, and unwarrantable assumptions. True science has made marvellous revelations to man concerning the universe, the plan upon which it has been built, and the order and relation of events which happen in it. But it has told us nothing of the actual nature of things, it has proved nothing to extinguish belief in a Personal Ruler of the universe; and it furnishes no justification of the cruel contentions of those who strive to rob man of his spiritual inheritance, and to leave him whereon to live between two barred eternities, nothing but the compass of this little earth and the fleeting life that is lived thereon. I am not now, however, going to plunge you into the deeps of a metaphysico-theological discussion. I content myself with saying to you, as young men engaging in the exercise of an art based and built upon experience, that if you strive to do the things belonging to a religious faith and life, you will discover for yourselves, beyond any possibilities of doubt whether they be true or false.

My second counsel to you is to cultivate character. In the work to which you will be called you may succeed without comeliness of person, or engaging manners, or robust health, or signal abilities, or influential patronage, or troops of friends, but you cannot and you ought not to succeed without character. Your character is the outward expression of your moral life; your moral life is the manifestation of your conscience in action upon yourself and upon others with whom you come into relation, and conscience is the supreme revealer of right and wrong to man. Perhaps the saddest sight in all the world is the union of a large and cultivated intellect with a moral nature which is either blind or base. There are able and good men who declare that the moral life is self-dependent, and that it is the mere outcome of human experience transmitted with varying modifications and corrections from generation to generation. On my own part I regard such a view as at variance with the facts of consciousness as well as with the history of human thought. For if it were true, the moral ideal would stand no higher than myself, and would carry with it no imperative of duty. Unless in some matter divinely illuminated and inspired, I could generate no confidence in the judgments of conscience, and acquire no abiding faith in its objective and supreme authority. And if it be proved, as I suspect it will, that morality has its roots in religion, then you have conclusive reasons for adopting my first counsel to seek after a religious faith and to follow a religious life.

The chief moral qualities essential to the right exercise of the art of medicine, are truthfulness in manner, work, and deed, reverence for high things, purity, self-effacement, regard for others, gentleness, loyalty to conviction, the courage to speak when silence might become complicity with evil, an unfailing sense of duty and responsibility, and the avoidance of idleness, frivolity, and ease. It cannot be concealed that in all of us there is a somewhat which strives against these things; and that in you the natural movements of life, your social relationships, and even your very studies will create in you desires tempting you to the indulgence of your lower self. Then, apart from the constraining love of virtue, you will have to remember that in the moral world, nature is as impracticable as in the physical world; that here there is neither forgetfulness of facts, nor forgiveness of sins; and that as you choose to sow, you shall be compelled to reap. And now, my dear students, is the appointed time to make yourselves what you ought to be; yes, now or never. Your moral nature is like any other organ or function: its highest life is to be found in its fullest action; its ease is the prime condition of its disease; its inactivity is its death. If your moral nature is to be made strong, you must exercise it; if you would shun falsehood, practice truth; and then you will learn how your antagonists may become your helpers. Then you will feel how every idle moment which you redeem, every hard word which you repress, every weak indulgence which you resist, every evil habit which you conquer, every gross temptation which you overcome, will give you additional strength for fresh encounters; then you will discover with waning difficulty and waxing joy, how to sacrifice the lower to the higher nature, how to find strength for duty, safety from evil, love for sacrifice, and how to become partakers of that truer life which is life indeed.

The third counsel which I have to offer to you is this: Take care of your health, for it will not take care of itself. The health which you are to have hereafter you must make to-day; and if it is wrongly made now it will be hard to get it rightly made then. Health is an essential condition of the fullest bodily and mental work; it is a prime factor in the making of happiness; and it is furthermore an inheritance which you ought to transmit, if not improved, at least unmortgaged to succeeding generations. It may be thought to be but little worse than folly to injure your own health, but surely it cannot be less than cruelty to injure the health of those who are yet unborn. The rules of health for students are few and simple, and in following them you need encounter no greater difficulties than are necessary to the strengthening of the will and the discipline of self-denial. Simple as they are, they cannot be continuously broken with impunity. It is to more or less prolonged, conscious or unconscious, and often petty violations of physiological laws that most of our chronic disorders and diseases are due. They are punishments of physical sin, and not paradoxes of spiritual life.

The last counsel which I shall offer you to-night is this: Give yourselves, with all your desire and all your might, to the work which lies before you to do. Let it be the chief and ever-present object of your life, and let nothing come between you and your duty to it. Medicine is a jealous goddess, who neither shares her supremacy nor tolerates rivalry, and who never grants her favors to a divided worship. In this she shows what a true woman she is. Do not be afraid of overwork, which, for the most part, is one of the fashionable pretences of the time. If you will be fairly loyal to the laws of health—if you will live within the rules laid down for your guidance—you cannot overwork yourself if you would. But the work must be honestly done out of the measure of your own strength, and not from the stimulus of a spur, whether of alcohol or tobacco. For it is a truth too often forgotten that labor of every sort is not merely life, but in the highest conceivable sense the very life of life. Give respect to your teachers and their teaching. Make the best of both, and you will get the best. Make the worst, and you will get the worst with contentions, bitterness and loss. Your teacher stands upon a height to which you have not yet ascended. They see further than your vision yet extends. They know more than as yet you can comprehend, and from their elevation they can guide you better than you can as yet guide yourselves. You cannot, therefore, with justice be their judges; and there can be no greater humiliation than to discover hereafter that you had adversely criticised what you did not know, and tried to hurt those who were striving to give you help.

Read no more books than are absolutely necessary to master the subject of which they treat. Read only the best books, and read them from end to end with thought and care. Be sure that you understand one paragraph before you begin another; never skip and never skim. Superficial reading is the curse of knowledge and the chief hindrance to its highest uses. More than anything else, it is the cause of those intemperate controversies which deface the literature of science. Read your book once to cover your subject; read it a second time to apprehend the position and contentions of the author; read it a third that by writing abstracts of the leading divisions, by reproducing from memory the substance of the author's contentions and arguments, and by making commentaries on doubtful positions, you may make your knowledge of the subject studied, not a mere addition to the mind, but a part thereof and your own. Next to reading in the method of your work comes the practice of examining and discussing with each other the immediate subject of your study. Rightly conducted, this practice is one of inexpressible value in the acquisition of knowlege. "It will rouse you from indifference, sustain your interest, and excite your emulation. If it will reveal your weakness, it will also increase your strength. It will teach you how to give ready expression to your ideas, and what to keep and what to cast away. And whilst it will cherish in you the ingenuousness which acknowledges defeat, it will inspire you with the courage which its renewal engenders. But it must be rightly conducted with singleness and sincerity of purpose for mutual help."

But before listening, or reading, or discussing, or examining, comes doing. To learn to do is the aim of all your studies; to be able to do well is the crown of all your work. But to learn to do things yourself you must first see things done by others. See, then, as much doing as you can, and as often as you can, whether it be the doing of small things or of great. Then on your own part lose no opportunity of doing anything and everything that you are permitted to do. Do not despise the doing of small things; it is the best initiation into the doing of great things, and the true secret of mastery. Keep doing, and when you do anything badly, do not be discouraged by your unskilfulness, but let your failure become the mother of something better to come. Here and now your doing is to be done; for if you learn to do only when you have patients to practice upon, you will never discharge aright the responsibilities with which you will become entrusted, and you will justly suffer in your place and work. And, lastly, whatsoever be the work which you undertake to do, do it always with all your might, and in this endeavor the highest will happen to this work and to you. Here I must end my speaking. Let my closing words be the expression of an earnest hope that in this large assembly, each of us, according to his means and opportunities, may cordially co-operate in the maintenance of the important and admirable institution which we are now inaugurating; that it may fulfill its purpose, and that it may in all ways justify the interest which the community has justly and wisely shown in its re-erection. Lastly, as such a work as this needs encouragement, let us wish it success; not a metricious success, not the success of expediency in morals, of intrigue in politics, of flattery in society, of cramming in education, of trickstering in arts, but a just success built upon high intention and honest work, and abiding with it in honor through growing service to men.

ABSTRACTS.

BY DR. E. S. MCKEE, Cincinnati, O.

GYNÆCOLOGY, TESTICOLOGY AND COMPARATIVE STERILITY was discussed in a masterly manner in a paper read before the Missouri State Medical Association at their Thirty-First Annual Meeting at Kansas City by Dr. Edward Borck of St. Louis. He spoke in an ironical manner of the great attention given the study of gynæcology, and the wonderful progress in the treatment of these cases and the marvelous cures claimed. He thought that the returns would justify the conclusion that nine women out of ten had something wrong. He was puzzled to know why this great attention to the study of the female reproductive organs. We hear little or nothing said about the diseases of the testicle. No array of new works is on our shelves. Are not the ovaries in women considered to be the analogue of the testicles in men? The former organs have received from the profession the kindest attention possible. The latter comparatively none. He reviewed the diseases to which the testes are liable, making quite a respectable showing. Men suffer from neuralgic pains in the testes, and women suffer from neuralgic pains in the ovaries. When all known remedies have failed, woman readily and cheerfully consents to have her ovaries removed. But man, oh no! He prefers to suffer on and on, and in some cases reaches the insane asylum with his testes along with him. He considered the removal of the testes a less dangerous proceeding than the removal of the ovaries. The author said he was a strong advocate for specialties, special studies, and believed in specialists; but he did not believe in every new graduate rushing off to Europe, studying some specialty, and returning in three months a full-fledged specialist. It takes more than this to make a good and unbiassed specialist. He should serve his term in general practice. The doctor then reported some amusing cases of sterility, in which the poor woman had been doctored by gynæcologists and neurologists till hope had almost fled, when they came to him, and he found the trouble in the husbands, not in the wives. The doctor's remarks were very pertinent in some regards; and while it be far from me to decry the great achievements of the gynæcologists of the present day, yet they draw some things too fine. It is probable that gynæcologists treat as many or more persons who ought by right to be left alone as any other class of practitioners. While specialism is good, it can be run in the ground—and it is done. There is evidently a field for the testicologist, but I fear it will be a long time till it will be as well cultivated as the ovarian. Probably when the ladies are equally represented in the profession with men, this will be true.

LATENT OR CHRONIC GONORRHŒA IN THE FEMALE is the subject of a paper by Dr. Noeggerath, of Wiesbaden, in the *Deutcher Medwochenschrift*. He considers that in the large and middle-sized cities gonorrhœa is the most frequent affection of the female genital organs. This frequency is more acknowledged by gynæcologists the more they become acquainted with and are able to determine it without the finding of the gonococcus alone, but also from the clinical symptoms. It is quite difficult to find the gonoccus in the chronic urethritis in man, and still more difficult in woman. Failure to find the gonococcus in man does not preclude the possibility of infection. Large numbers of newly-married women, he thought were infected with latent gonorrhœa in the husbands, and he recommended the most careful examination of the urethra in man before allowing him to marry. The diagnosis of female chronic gonorrhœa with acute attacks acute and relapsing perimetritis is not difficult. He gave a clear picture of the known clinical symptoms of chronic gonorrhœa in women.

SOME OBSCURE AFFECTIONS OF THE RECTUM. By Dr. J. M. Matthews, of Louisville, Ky.

The author, in an exhaustive paper read before the Mississippi Valley Medical Association, at St. Louis, Sept. 26, 1888, said in brief as follows:

At the Meeting of the American Medical Association in Cincinnati, May 8th, 1888, a learned disseration on "The Nervous Rectum" was read by Dr. William Goodell. The term most used by Goodell, however, was "hysterical rectum or hysteria." In other words the position taken was that certain muscles became hysterical. Dr. Matthews thinks this caption misleading, and that "some obscure affections of the rectum" is better for the elucidation of the subject, as it invites investigation.

We all have patients coming to us with some vague symptoms of the rectal trouble, but we too often dismiss them without an examination. Is not the physician dealing with some traumatic lesion as Dr. Goodell says he is sometimes led to believe he is. Will he be cured till this lesion is removed? The doctor believes that these diseases originate from local disease, and as a result we have pathological changes. Or, per consequence of disease in a contiguous part, we have disease made manifest in the reflexes. A better term than hysterical would be neuralgic, though this is far from correct. There are many pathological conditions existing in the rectum, any of which might cause all the symptoms of the so-called hysterical rectum, that the necessity for an examination cannot be too strongly urged. Among these conditions might be cited: 1, hæmorrhoids; 2, proctitis; 3, injuries to or diseases of the uterus; 4, stricture of the urethra; 5, cystitis; 6, enlarged prostate, etc. Besides these, disease existing in or around the rectum giving rise to vague hysterical symptoms of the rectal muscles, there are others of an obscure nature which are hard to detect. In Dr. Goodell's paper he refers to this class of cases under the head of pellicular colitis or pseudo-membranous enteritis, in which mucous casts of the lower bowel are discharged with much tenesmus and abdominal pain, either by themselves or in the regular evacuations. He says the disease is "sheer neurosis," in which diagnosis Dr. Matthews cannot agree. He does not deny that the nervous system is responsible for many strange freaks, but states the following as the causes of these obscure affections: 1, hysterical (?) neurosis; 2, the reflexes; 3, a lesion or pathological change at the seat of trouble. Of these three causes he considers lesions or pathological conditions in the rectum the most frequent root of obscure rectal troubles. When patients present such symptoms as have been described, the rectum and sigmoid flexure are subjected to a rigid examination, which does not mean a casual survey of the parts; but after preparation on the part of the patient by the use of an aperient and an enema of hot water, then by the aid of proper light and an anæsthetic, with a Wales bougie and speculum, the sensitive part and seat of trouble can usually be discovered.

Pathological conditions which cause symptoms stimulating the nervous rectum are: 1, fissure; 2, ulcers; 3, congestions, 4, proctitis; 5, internal fistula. Fissures of the anus may escape notice even after diligent scrutiny, therefore careful search is urged for any abrasion. If any lesion is found which is embraced by the sphincter, the remedy par excellence is divulsion of the muscle. In the second condition of ulcers, which are often found along the course of the gut, a very simple procedure is required for their cure, viz.: A probe with cotton on the end dipped in pure carbolic acid applied through speculum. In congestion the liver should be looked after, and when a healthy state is established, it should be maintained by a free administration of some aperient mineral water. The rectum should be washed daily by injections of very hot water.

That the rectum can be inflamed seems to have escaped the minds of many. When such condition exists, usually the only symptoms manifest are those of reflex pains in the back, legs, belly, ovaries, general lassitude, mania, nerve prostration, bladder involvement, loss of appetite, melancholia, etc., etc. It is no wonder that this trouble is frequently called hysteria. When these vague symptoms exist I beg that the rectum be inspected. If the rectum be found inflamed, free aperients, hot water injections, a non-stimulating diet, perfect rest of the body and the use of these prescriptions as a daily injection is to be recommended as treatment:

℞.
Subnit. bismuth - - - ʒi
Iodoform - - - - - gr. x
Sweet almond oil - - - - ℥i
M. S. Inject.

℞.
Fluid hydrastis - - - - ʒi
Water - - - - - ℥i
M. S. Inject.

℞.
Listerine
Water āā - - - - ℥i
M. S. Inject.

In obstinate cases it is best to put the patient upon a fluid diet. The best article used by Dr. Matthews for that purpose is bovinine. In concluding he begs the profession to regard these obscure troubles of the rectum as worthy of their careful consideration. Many lives have been wrecked because patients so afflicted are neglected by the physician and fall into the hands of charlatans and quacks. Too much stress has been laid in these cases to the nervous symptoms which present and not to the local cause of the trouble. He does not agree with Dr. Goodell when he says, "The treatment of a nervous rectum depends largely upon the general condition of the patient. If she have nerve prostration—as she usually will—failure will attend every effort to cure the rectal disorder unless the former is successfully treated. This treatment consists of prolonged rest in bed, seclusion from friends, nutrition, massage, and of electricity." Dr. Matthews believes such a course pursued with such cases would be highly detrimental, and says most emphatically, attend to the local causes and the nervous symptoms will take care of themselves.

ARSENIC IN LEUCOCYTHEMIA.—E. A. Barton, M. R. C. S. and R. C. P. London, in *Therapeutic Gazette* says: The use of arsenic in leucocythemia has been recognized, but no minute observations on the blood of a patient suffering from leucocythemia, under the influence of arsenic have been made.

He reports the following case in which the patient had his dinner at 12 M., and the observations were made at 4 P. M., just before another meal. J. S., a gardener, was admitted to the University College Hospital on February 13th complaining of a tumor in the belly, with wasting.

History.—Had lived at Gravesend. At age of twelve went to Charlton where he had an attack of ague, the attacks returning every other day for next three months. He has since lived at Hampshire, but for past year has lived near Windsor on the Thames. Ten months before admission, began growing stouter but weaker. Three months before admission his belly became tender, was troubled with piles, and had several attacks of epistaxis.

On admission was thin and pale, spleen very much enlarged, reaching from the spine to an inch to the right of middle line in front below the umbilicus, and its lower limit reaching to within an inch of Poupart's ligament. Four fingers could be placed in notch of spleen. Tenderness was marked over front of sternum but in no other bones, no enlarged glands, lungs healthy, two heart murmurs, arteries fibroid, highest elevation of temperature during the day 100° F.

February 20th.—Examination of blood showed thirty-eight per cent. of red corpuscles, and one white to two and five-tenths red. He was given liq. arsenicalis *m* v. quin. sulph. gr. iij three times daily. After two days, however, the quinine was stopped and liq. arsenicalis was increased to *m* x. three times daily, red corpuscles being at this time thirty-nine per cent with one white to two and seven-tenths red.

March 10th.—The arsenic had been pushed to limit of toleration, *m* xxv. four times daily, being nearly a grain of arsenious acid. This dose was given for five days only, when diarrhœa set in and arsenic was discontinued, the blood at this time showing fifty-five per cent. red corpuscles and one white to twenty red.

On March 17th.—Hæmoglobin was found to be forty per cent., temperature normal, spleen two-thirds its original size, much harder and all tenderness had disappeared. Next day a carbuncle appeared on upper lip, followed the day after by an attack of facial erysipelas which lasted six days. These disappeared under treatment, the arsenic having been discontinued.

April 5th.—A crop of carbuncles appeared on his perineum, some of which were opened, and a good deal of suppuration ensued in two of them. He lost much blood at stool. Under treatment these disappeared in a fortnight, leaving him much reduced in flesh. The white corpuscles had been increasing much in number since arsenic was stopped till on April 11th they were one white to nine red. The spleen had also nearly regained its original size and was very tender. He was again placed on liq. arsenicalis, *m* xv. four times daily, which was quickly increased to *m* xxiij four times daily. In three weeks the corpuscles stood one white to three hundred to four hundred red, a normal relationship. As the result of the administration of so much arsenic the skin became quite bronzed, pigmentation being more marked over the abdomen and bony prominences.

On April 29th.—Gr. v. of ferrum. redact. was given with the arsenic until May 3d, when vomiting, diarrhœa, and loss of appetite necessitated the discontinuance of the arsenic, patient taking the iron only. At this time spleen was much reduced in size, was harder, and had lost its tenderness. The hæmoglobin was scarcely altered in quantity since admission. When he left the hospital, May 7th, the white corpuscles bore a normal relationship to the red, being one white to three hundred and fifty red. The hæmoglobin was deficient. He had not improved much in health, being nearly as weak as when he came in, and his weight was the same as when admitted. It is difficult to say whether the persistence of the disease or the attack of carbuncles, with their accompanying hæmorrhage, was the main factor in reducing him to such a condition of weakness. If the debility were the result of the persistence of the disease, it must have been due rather to the deficiency of red corpuscles and hæmoglobin than to the relative number of white to red cells, for when he was discharged there was no discrepancy in their relative proportions. Possibly the debilitating effects of the carbuncles were a potent factor in reducing him, because there was a marked decrease in the number of red corpuscles during the attack, though this may have been due to the hæmorrhage. It is uncertain whether the carbuncles may not have been induced by the exhibition of so much arsenic, but it is certain that the predisposition to hæmorrhage, so prominent in leucocythemia, tended to increase the loss of blood from the carbuncles.

NOTES ON ITALIAN MEDICAL LITERATURE. (Translated by Dr. Dell'Orto).—*An Epidemic of Diphtheria Caused by Pigeons.*—In the *Bolletino Medicale* there is a very interesting report of an epidemic of diphtheria which occurred in 1887 at Skiatos, a small island of four thousand inhabitants, situated in the Greek archipelago. The first case was observed by Dr. Paullinis at the commencement of June. The child died on the fourth day of the disease. In a few days seven more children were attacked and five died. The diphtheria rapidly spread through the whole island, and in five months it caused a mortality of thirty-six out of one hundred and twenty-five patients. The sudden appearance of this disease on that island was quite a surprise to Dr. Paullinis, who had not seen a single case of diphtheria during thirty years. After a careful investigation of its origin he discovered that some days previously to the death of the first child, a peasant, living in the neighborhood of the house, had received from Salonica a dozen pigeons. Two were very sick during the voyage and died of diphtheria as soon as they reached the island. A few days afterwards seven more pigeons died of the same disease. The place is situated at the north end of the island, and the doctor's theory is that the north wind, which constantly blows there in the summer time, brought the germs of the diphtheria of pigeons to the nearest houses, and thence it spread among the human beings; and we are inclined to believe in the truth of this theory. That the false membranes of diphtheria in fowls are identical with those of the diphtheria of man has been demonstrated by Loeffler, Cornil, and Babet; and that the disease may be directly communicated from animals to man has been practically proved since 1870 by Nicati in France, by Cozzolino in Italy, and by Flemming, Bouchard, Emmerich, and others.

A Case of Displacement of the Heart.—At the meeting of the Athénée of Brescia (June 3, 1888), Dr. Emmanuele Anselini related a case of a young man whose heart is situated in the right side of the thorax. The functions are normal and the man enjoys good health; he only suffers from a slight dyspnœa when he walks too fast. As a matter of course the right thorax is more dilated and arched than the left one. The beats of the heart are heard under the sternal margin of the fifth right intercostal space. The sounds of the large vessels are normal and are heard between the second and third spaces.

Fungous Osteosinovitis of the Right Knee.—Dr. Angelo Negrotto had a case in the hospital of Trevigo of a fungous osteosinovitis of the right knee, complicated with a large periarticular abscess, in a young man of twenty-five. A complete resection of the knee was performed. The peculiarity of the case is that no sutures were used. The doctor nailed into the bones, by boring three holes, three ivory nails. The result was very satisfactory; the recovery was rapid, with a good use of the limb. The doctor believes that by these means the displacement of the bones is impossible.

A Large Effusion in the Cavity of the Right Pleura Cured by Pressure of the Chest of the Left Side.—In the number of August 5, 1888, of *Gazzetta Medico di Torino*, Dr. V. Andrenelli reports the following case: The patient is a man, æt. 50 years old, who, seven years ago, had an attack of pneumonia, from which he completely recovered. Since that time he has been in good health up to six or seven months ago, when, on account of exposure, he felt some difficulty in his breathing. Lately, seeing that the dyspnœa was increasing, and moreover that he could not lie down on the right side, he sent for the doctor. Patient does not have any fever and does not feel any pains.

Diagnosis.—A large collection of fluid into the right pleura. From an exploring puncture made into the sixth intercostal space a liquid of a Malaga wine color was withdrawn, and this was quite a surprise to the doctor, as the patient did not have any signs or symptoms of having had any internal or external injuries as the cause of this bloody liquid.

After an unsuccessful internal treatment of several days thoracentesis was performed with the apparatus of Potain; five *litres* of the same kind of fluid were slowly extracted, the operation lasting three hours. The relief obtained was not so good as the doctor expected. In a few days the cavity was refilled. Another operation was performed; one and a half *litres of liquid extracted.* No benefit from this second operation. On the contrary patient grew worse; the cavity very soon was filled again with liquid, and symptoms of the most serious character appeared.

The doctor decided to try the method recommended by Dr. Concato, of making a pressure on the healthy side of the chest, as the best means of causing a rapid absorption of the liquid. He commenced by pressing the left side during five minutes for the first day. The pressure was renewed every day, and the time of the pressure was gradually increased from five to twenty minutes every twenty-four hours, and it was continued for one month. The result was: After the tenth day a great improvement was noticed in the whole symptoms, the patient was able to lie on the right side, diuresis became abundant, dyspnœa quickly disappeared, and in a few weeks he was perfectly cured.

This kind of treatment, which was suggested by Concato several years ago, has failed in the hands of other physicians. Fraentzel speaks very bitterly against it. It is to be regretted that Concato died before he could publish the results of his experience; but the fact of such an authority as Concato was having recommended it is a guarantee of its efficacy in some cases, and the benefit obtained by the case which I have just related is encouraging, and makes the method worthy to be known by the profession and to be tried.

Treatment of Aneurisms by Dr. D'Orenzi of Naples.—In the general report that Dr. D'Orenzi of Naples makes every year about the patients treated at his clinic in the hospital, there are related several cases of aneurisms in which he shows the benefit obtained by the following treatment:

1. Absolute rest in bed during the first days, as recommended by *Tufuel.* The nourishment is given in small quantities four times a day, and great care is taken in causing the least possible movement of the body.

2. Constant application of ice to the tumor. The doctor seems to have great confidence in this application, as it causes rapid decrease in the pulsation. But the tumor must never be left without ice, otherwise the treatment may be dangerous.

3. The internal administration of iodide of potassium in doses of from one to three grams. every day, diluted in a large quantity of water, as recommended by *Balfour.*

Remarkable and very rapid was the improvement in all the cases.

CLINICAL RECORDS.

CASE OF FRACTURE OF THE BASE OF THE SKULL: PROLONGED INSENSIBILITY.

On December 30th, 1887, I was sent for early in the morning to see a gentleman who was thrown from his horse on the common. On reaching the spot I found Mr. F., æt 48 years, standing up talking incoherently, and not knowing of his accident; blood was flowing freely from his left ear, but there was no external wound. I got him home, and telegraphed for Mr. Edmund Owen. In the course of half an hour he vomited at least half a pint of blood; he was very excited, and at times violent. Mr. Owen confirmed my opinion that he had fracture of the base of the skull; applied blisters behind the ear, and gave calomel and bromide of potassium. At 8 P. M. he had an epileptic convulsion; evening temperature 101.2°. I passed the catheter, and emptied his bladder. The left eye was insensible to light, and pupil contracted to pin's point: the left side of face was paralysed.

On January 1st he fell into a quiet, semi-comatose state, taking liquid nourishment freely. Urine and fæces passed in the bed. Temperature 97.6°, pulse 76. He remained in this state till the 12th, when he became violently excited, talking, singing, and whistling; sensation returned to left eye and side of face; pupil of normal size, but not sensible to light. Temperature 97.6°; pulse 84, feeble. I gave beef-tea, and administered brandy and eggs freely. On the 13th Dr. Buzzard saw him with me, and located the fracture as through the petrous portion of the temporal bone, with injury to the portio dura and auditory nerves; and that there had been effusion of blood round the fifth nerve, which was partially absorbed. He gave on the whole a favorable prognosis, and advised a continuance of the same treatment. On the 24th the patient became more restless and troublesome. Temperature varied in three hours from 100° to 101°, and to 99.6°. He was freely purged with calomel. From the 25th to February 3d he lay in a quiet, unconscious state, occasionally talking nonsense, but he took his nourishment—beef-tea, eggs, and brandy—well. On the 8th I gave him potass. iodi. gr. ij, twice a day. About February 20th he began to be much troubled with sleeplessness. I tried paraldehyde, urethran, and bromide of hyoscine, instead of the bromide, without much effect. On the 28th he had a free discharge of purulent matter from his left ear. Temperature 101.8°; returned to bromide and opium. On March 10th he was very stupid and heavy, but could not get any real sleep. I tried paraldehyde again, and gave port wine and syrup of iodide of iron. On the 18th there was decided improvement; he knew me, but was not conscious of where he was. On the 25th he knew his wife and all around him, but was very queer in his ideas. On the 30th he was quite unconscious again. I gave chloral and croton chloral freely till the evening of April 2d, when he slept soundly, and on the 8th became quite conscious. He got up on the 10th, came down stairs on the 11th, on the 14th went for a drive, and on the 19th went to the sea-side, and, with the exception of a slight epileptiform seizure on the 29th, after a very indigestible meal, has gradually improved ever since. He returned to his business on the 14th, doing a little each day; he has still some paralysis of the left side of the face, especially his eyelids.

THOMAS EDWARD PARSONS, M.R.C.S. Eng.

Wimbledon.

A CASE OF PERNICIOUS ANÆMIA TREATED BY REPEATED TRANSFUSION.

G. P., æt. 58 years, came under care on July 23rd, suffering from intense anæmia; he was very thin, with an anxious careworn expression. The skin was uniformly of a tawny color, without any intensification in any locality, the mucous membranes were free from pigmentation, the sclera was pearly white, the ears thin, pointed, white, almost transparent. There was no splenic, hepatic, or glandular enlargement; no pulmonary disease. A hæmic murmur was marked over the aortic and pulmonary orifices; the cardiac impulse was very feeble; there was no anasarca or chubbing of fingers or toes. Urine, specific gravity, 1010; no albumen. Microscopical examination of blood showed twenty or thirty white corpuscles in one-fifth field; one or two nucleated red ones. Retina almost white; here and there some yellowish spots; on right one or two linear extravasations of a recent date in the vicinity of the macula (the sight of this eye had been impaired for some time); over both retinæ there were some small extravasations in various stages of absorption. History: A butcher—an enormous worker—reducing sleep to meet his business requirements, eating largely, and abusing the use of stimulants; had never lived in a malarious district, and had not suffered from syphilis.

Remarks.—This was considered to be a case of pernicious anæmia or Addison's disease. He was treated by a continual recumbent position because of his dyspnœa. Iron and arsenic in effervescent form were given for some months. Peptonized fluid aliment and brandy were given with strict regularity. At one time more than four quarts of peptonized milk were consumed in twenty-four hours. After a few months it was apparent that the treatment was of no avail, so I resolved to transfuse as often as it might be necessary. Mr. G. S. Watson kindly gave me his assistance, and on December 12th I injected about ten ounces of blood into his left median basilic by Aveling's apparatus, from a healthy strapping lad—his nephew. The immediate effect was brilliant; a slight color came into his cheeks and ears, and he expressed himself as "expanded" by the dose. For a few hours he breathed 30 per minute. Temperature rose to 103 about six hours afterwards, but no pulmonary trouble appeared, and the next day he was quite brisk. The improvement gradually waned, and by the 16th the operation was again necessary. The left arm could not again be utilized, because the use he had made of the veins had completely obliterated all the large ones on the surface, so the right median basilic was chosen, and ten ounces injected with the same train of symptoms as before. On the 22d, the right median cephalic was used, and ten ounces injected. This last injection completely occluded the surface veins of the right arm, so that when on the 30th the transfusion was again necessary, the left external saphena was chosen, and ten ounces used. This was the last that was done, for, on January 11th, the attempt to open the lumen of veins in either leg was impossible from their extreme tenerity.

He lingered a few days and then sank, without any evidence of any other disease save pulmonary hypostasis. No *post-mortem* was permitted.—Cleland Lammiman, F.R.C.S. in *British Medical Journal.*

CASE OF DISLOCATIONS AND FRACTURE REDUCED UPON THE TWELFTH DAY AFTER INJURY. By Cheves Bevill, Winfield, Ark.

On August 30th last Mrs. P—— fell from a ladder about four feet backward, and received quite a variety of injuries of her arms.

I was called, but being twenty-five miles away from my office, an eclectic physician was sent for, and in justice to him I will say that, owing to the length of time from the injury until he arrived (some six hours), he could not tell about the nature of the case as one would like to.

On the eleventh day after the fall the husband requested me to go to see his wife, saying that he "believed that her right elbow was out of place." As it was late in the day, I told him that I would bring another physician down with me next day, as I knew very well that I would have to use an anæsthetic, and so informed him.

At ten o'clock upon the twelfth day from the time of the injuries I saw the lady. She was pale and weak from loss of sleep, though cheerful.

I found the right elbow dislocated, the humerus forward upon the forearm. Of course, the arm was nearly straight, but semi-prone. The surface around the elbow was green, owing to the bruised condition of the flesh, and was very tender; the right ulna was fractured just about one inch from lower extremity; the radius had been dislocated laterally, and the husband had immediately after the fall reduced it, as he thought, but had only about half completed the operation; hence this was an awkward shape for the hand and arm to be in. There were some splints upon the lower arm, but the ulna was not properly readjusted, so it had failed to unite. The left ulna, instead of being fractured, was disarticulated from the carpus and thrown backward, and the radius here had also been dislocated backward, and was not properly in place.

I tried to reduce the elbow luxation, but could not, as by pulling upon the forearm I hurt the part over the fractured ulna too much. So I prepared everything as best I could to use ether. My assistant in the work, Dr. T. W. Dedmon, administered the ether, but I took good care to watch the eye, as I had seen the physician do at divers operations but a short while before in St. Louis.

Forty minutes failed to secure anæsthesia with the ether, so I gave chloroform, and she was soon thoroughly under its influence; and now, by a great effort, using my knee as a fulcrum, I was gratified to find that the elbow was reduced; but it made my patient flinch, as it had become somewhat accustomed to its new place.

The radius was then properly reduced at the wrist, which brought the fractured ulna properly together. This was done up a little more according to modern surgery than it was before. The left wrist gave me some trouble to get it properly reduced, as the cartilages seemed to have glued the parts to their new places.

After an hour's work I completed the work, and the patient came from under the chloroform all right, and was happy to find herself all together once more.

The pain at the elbow became very severe, so I gave morphia sulph. gr. ¼, which gave her some ease. I directed cold water to the joints. She is now, October 5th, all right, and glad to find that she can use her arms and hands very well, considering the length of time since set.

I report this case owing to the novelty of the case, and to show that by the use of chloroform, even at this late date, we can reduce dislocations and properly set fractured bones, and render our patient fit to attend to business again. Erichsen, in the last edition of his "Science and Art of Surgery," says that "we ought not to try to reduce the elbow joint later than one month after it is dislocated, and under an anæsthetic."

SANITARY.

SEWER-AIR DISEASES.—A great deal of vague assertion has been made with regard to the effects of sewer gas, or, as it is better called, sewer air, upon the human system. While some look upon it as always poisonous and often virulent, others consider it usually harmless, though unpleasant. The good health of workmen engaged constantly upon sewers is cited in favor of this latter view.

Dr. Elias H. Bartley attempts, in a recent volume of Wood's "Reference Handbook," to treat the matter systematically, and he has made a very satisfactory contribution to a little understood, though much discussed, subject.

Sewer air is defined as including the air of house drain-pipes, privy vaults, cesspools, and other imperfectly ventilated places containing decomposing animal and vegetable matters.

The composition of badly-ventilated sewers, according to Dr. W. R. Nichols, of Boston, is:

	Maximum.	Minimum.
Oxygen, - -	29.90	20.48
Nitrogen, - - -	79.26	78.89
Carbon dioxide, - -	0.50	0.40
Sulphuretted hydrogen, -	trace.	trace.

In extreme cases the oxygen has been found as low as 13.79 per cent., the carbon dioxide as high as 3.4, and sulphuretted hydrogen as high as 2.90 per cent. Besides the gases here mentioned sewer air always contains bacteria and volatile organic matters, sometimes in large amount. The exact nature of these organic matters is not well understood. Some of them seem to belong to the class of bodies known as compound ammonias, or amines. The gases making up sewer air possess considerable diffusive power, and will pass easily through walls and porous earthenware or brick sewers. In this way these gases frequently find their way into the cellars of houses, especially in the vicinity of a broken sewer or improperly conducted cesspool. Fungi readily grow in such air, and articles of food, such as meat or milk, soon become tainted and decompose when exposed to it. Experience has shown that stagnant sewage gives off more gas and is more dangerous than that which is kept in motion. Sewer drains which have a steep grade are, therefore, to be preferred to those having a slight grade. Where sewers are frequently flushed with water, and where there is no chance for stagnation, with a reasonably good ventilation, the danger from sewer air is reduced to a minimum.

There are very strong reasons for believing that the specific poisons, or germs, of a number of the contagious diseases may be transmitted by sewer air. Dysentery, diarrhœa, the periodic fevers, typhoid, cholera, and yellow fever are among the diseases which may be conveyed by sewer air.

Acute poisoning by sewer air is comparatively rare, and when it occurs is due generally to the H_2S, or to absence of oxygen.

The symptoms of chronic sewer-air poisoning are of two kinds: the specific and the non-specific. The specific symptoms are those which result from pathogenic micro-organisms of various kinds suspended in the sewer air and causing the various infectious diseases described.

Among the symptoms, when no specific disease germs are at work, are malaise, headache, loss of appetite, with dyspeptic symptoms, drowsiness, and slight feverishness. There is a marked tendency to anæmia and general debility. These symptoms are frequently grouped under the name of "malaria." In children, to these phenomena may be added a smooth or glazed, broad, flabby tongue, with a marked tendency to digestive trouble, as vomiting, diarrhœa, dysentery, and attacks of gastric catarrh and catarrhal tonsilitis.

The tendency of sewer air poisoning is to derange the organs of primary assimilation rather than the lungs; as, for example, gastric catarrh, duodenitis, hepatitis, splenitis, diarrhœa, enteritis, and colitis. Besides these effects, the debilitating influences of the polluted air render the persons so affected an easy prey to an intercurrent malady. Sewer air is more likely to affect weakly and anæmic persons.

The treatment of chronic sewer air poisoning is to remove the cause, secure a change of air, and use tonics and symptomatic remedies. The best specific is fresh air.

The methods of detecting sewer air vary somewhat. The chemical tests depend upon the detection of sulphuretted hydrogen (H_2S) or ammonium sulphydrate. If a piece of filter paper be dipped in a solution of lead acetate, and be exposed to an atmosphere containing either of these substances, it turns dark brown, and finally black. A paper dipped in a solution of nitro-prusside of sodium assumes a crimson, and turmeric paper a brown color with ammonium sulphydrate. White-lead paint is darkened by both the above compounds, while zinc white is not changed in color.

The peculiar odor of H_2S may be easily detected when the proportion reaches one part in ten thousand of air. On closing a room tightly for some hours, and then going into it from the open air, a musty or oppressive odor is detected when sewer air emanations from decomposing animal matters have found their way into it. If any circumstance should lead to the suspicion that sewer gas is entering a room or house, it would be best to test the drain-pipes by the "smoke test" or the "oil-of-peppermint test."

A suspected joint in a sewer or drain pipe may be tested by wraping it with a single layer of white muslin, moistened with a solution of acetate of lead. As the gas escapes through the meshes of the cloth, it will be blackened by the sulphur compounds.—*The Medical Record.*

THE FACTORS OF LONGEVITY.—Professor Corradi, of Pavia, remarked that Aristotle calculated the age of man and animals by the duration of pregnancy and growth. According to Flourens, growth lasts till the bones are united with the epiphyses; in the man until his twentieth, in the horse until his fifth, in the dog until his second year, and so on. If we multiply this age by five we have the normal duration of life, so that man, therefore, should live to be one hundred years old. The oldest man whose age has been attested was Henry Jenkins, aged one hundred and fifty-seven years, whose age coincides with the rule given by him that the duration of growth multiplied by eight represents the utmost limit of life.

Professor Cexis found that among one thousand persons of both sexes, 39.6 reached or surpassed their seventieth year, which number precisely agrees with those given by other scholars. As to people aged a hundred years there is no certain type, but sex is an important factor. In 1881 there were in Italy, among three hundred and eighty persons a hundred years old, two hundred and forty-seven women and one hundred and thirty-three men. This difference in favor of females is not accounted for, unless it be due to the greater equanimity of their lives. Of course, heredity plays a part in longevity, but it is not all-important. It is the task of hygiene to remove the cause of casual and premature deaths, and by so doing create strong generations of men, from whom will spring a race of centenarians. We must educate our children in hygiene, and we must realize that long life is not to be secured by pills, juices and pretended arcana, but by hygiene.

HYGIENE OF THE EYES.—Dr. Lincoln, of Boston, in *The Annals of Hygiene*, formulates the following rules to be observed in the care of the eyes for school work:

1. A comfortable temperature, and especially let the feet be warm and dry.
2. Good ventilation.
3. Clothing at the neck loose; the same as regards the rest of the body.
4. Posture erect; never read lying down or stooping.

5. Little study before breakfast or directly after a hearty meal; none at all at twilight or late at night.

6. Great caution about study after recovery from fevers.

7. Light abundant, but not dazzling.

8. Sun not shining on desk, or on objects in front of the scholar.

9. Light coming from the left hand, or left and rear, under some circumstances from in front.

10. The book held at right angles to the line of sight, or nearly so.

11. Frequently rest by looking up.

12. Distance of book from the eye about fifteen inches.

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PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

November 6, 1888.

QUESTIONS CONCERNING DIPHTHERIA: A DISCUSSION.

The continued discussion of diphtheria, by this Association, is chiefly based upon a series of thirteen questions formulated in the paper of Dr. Avery Segur and published in the November issue of the JOURNAL, at pages 426–428. Four papers are here introduced in the form of remarks, in the order in which they were presented to the Association by their authors, Drs. J. D. Rushmore, J. D. Sullivan, W. H. Thayer, and Wm. McCollom. In order to avoid the frequent repetition of the questions already printed, the authors in some instances refer to those questions by the numbers which they bear in the introductory paper of Dr. Segur, above cited.

J. D. RUSHMORE M.D.;

The few remarks that I have to make can with least time be put into the form of answers to the specific questions presented at the beginning of the paper read at the last meeting of the Association.* And these answers are the outcome of an ordinary experience in the treatment of diphtheria for a number of years, and as far as possible exclude the consideration of theories.

1. Are there cases of diphtheria having the characteristic local condition without severe constitutional symptoms which recover without treatment? I can recall several such cases, where the symptoms were not considered severe by the parents, and where the physician was called in because the child was feverish, and when the trouble in the throat had evidently existed for several days, and no medication worthy of the name had been carried out.

*See Page 426 of November No. of the JOURNAL.

2. Are there cases of diphtheria which run their courses without attracting attention to the throat, or present no membrane if the throat be examined? To the former classes an affirmative answer can scarcely be given; to the latter I should answer that I never have pronounced a case one of diphtheria unless I have found membrane present.

3. Is it probable that many cases of diphtheria are so mild as to entirely escape recognition, or not go to bed? Such cases undoubtedly occur, but I think we can hardly say they are many.

4. Are there more very mild cases now than were observed in the earlier histories of diphtheria, or does a more critical diagnosis now include cases formerly considered as tonsilitis, simple sore throat, etc.? In my own experience diphtheria has been in the past year what it was fifteen years ago. There are variations of course, from year to year in the severity of diphtheria as there are in cases of scarlet fever, etc. And I cannot help feeling that an increasing number of cases of throat inflammations are diagnosticated diphtheria, but that the diagnosis is not any more exact nor more critical.

I must class myself with those who find it impossible to make a diagnosis of catarrhal diphtheria. I should be unwilling also to acknowledge follicular tonsilitis to be a diphtheritic affection, in nearly all cases. I never have thought it necessary to isolate a case of follicular tonsilitis; nor have I ever seen anything more than follicular tonsilitis manifest itself in other members of the family where one child was already sick with it. If I should meet a case of diphtheria well pronounced as a termination of what I had diagnosticated follicular tonsilitis I should feel disposed to regard the cases of diphtheria developing on a follicular tonsilitis as it may develop in any throat that is out of its normal condition. At the same time I am sure there is a diphtheritic follicular tonsilitis beginning on such. A quarantine of a day will almost always clear up the diagnosis. I find no use for the term diphtheritic sore throat as distinguished from diphtheria. And think the terms follicular and diphtheritic unfortunate in implying that the presence of the one excludes the other, the former simply relating to an anatomical location, the latter to a pathological process. As cases of diphtheria differ as widely in their gravity as those of scarlet fever, I think a somewhat similar classification clinically useful especially in regard to therapeutical deductions. I have found the term simple diphtheria, infecting diphtheria and malignant diphtheria of much use in every way.

5. Do an increasing proportion of cases recover? If so, is the result due to better treatment? In my own experience no larger proportion of cases recovered than formerly.

6. Does treatment directed to any supposed cause of diphtheria, as microbes, give better or as good results as treatment to "obviate the tendency to death," and are there important remedies other than supporting? To support the patient until the disease is cured seems to me the essential line of treatment here as in many other febrile and specific diseases, as scarlet fever, typhoid fever, etc., preventing and

meeting complications; but making no effort to destroy by germicides any supposed causes of the disease. The remedies other than supporting, on which I rely are those that are directed simply to cleaning the throat and nose, such as peroxide of hydrogen, etc., etc. Solvents have given me little satisfaction. But to keep clean a surface over which air and food pass and to prevent as far as possible systems contaminating by absorption of diphtheric material has always seemed to me of the utmost importance. A hot watery solution of corrosive chloride of mercury 1 to 4000 used as a gargle every 2 hours in the first 48 hours of the disease has during the past winter seemed to me to limit the spread of the membrane in a few cases. In one case mild salivation was produced.

7. What is the evidence that very large quantities (one or two pints a day) of brandy or whiskey, are necessary in severe cases and what is the limit of alcoholic tolerance. The effect on the circulation and on the throat and nervous break up should be the guide in the use of alcohol and not to see how little the patient can get on with or how much he can tolerate. A pint in the 24 hours has been in a few cases apparently the life saving remedy.

8. If corrosive sublimate be used what is the evidence (a.) of bacillicide influence? I have declined to use this agent in the treatment of diphtheria partly on theoretical and partly on clinical grounds. I think the proof is wanting of the causative relation of microbes to diphtheria, that a dose sufficiently active to accomplish its germicide object cannot safely be given to the patient, that the action of the remedy is interfered with to such an extent by the antidote (milk) with which it is often administered that no favorable inference can be drawn of its effect. Looked at from a clinical standpoint I think the evidence is quite as strong against the value of this agent in diphtheria. The fact that a child two years of age can take one-fiftieth of a grain, every hour for two days, without manifesting any local or general symptom of poisoning by the drug has made me feel that it must be rendered comparatively inert by combination with milk, etc. To get anything like a fair basis of estimate of its value, however, we ought to know whether the cases in which it is used are simple, infective or malignant.

9. What is the value of tincture of iron, of chloride of potassium; of surgical interference? I have used tincture of iron less of late years because it has seemed to interfere with the proper nourishment of the patient. Chlorate of potassium never commended itself to me, and I have known it to be of absolute detriment to the patient. I have already at the last meeting of the Association expressed myself in favor of surgical interference in properly selected cases, to improve the patient's chances for recovery, but in no other way effecting the disease.

10. What are the important measures of prevention? (a.) in the family, (b.) in the neighborhood, (c.) in the town or city, (d.) in schools? I have always insisted on a thorough quarantine of the patient during the illness, a brisk and complete change of clothing when allowed to

go out; the destruction by fire of any old clothes, etc., that contain discharges, or prolonged boiling of fabrics that can be used again, as towels, sheets, etc.; washing and thorough airing of the apartment for a day before being again occupied. I never have had any confidence in so-called disinfection with solutions or vapors, or fumigation, etc., etc. Indeed not a few instances have come under my notice where such practice has been shown to be of no use. And one can hardly help being struck with the relative importance attached to measures for the restriction and prevention of contagious and infectious diseases by sanitary authorities, and the authors of even the most exhaustive articles in diphtheria in the text-books, where these measures are often not even mentioned. I think the weight of evidence goes to show that four weeks, the time during which children sick with diphtheria should be excluded from school, is rather too short. I am led to think it would be safer to lengthen the time to five, or better, six weeks.

How long should children who have escaped in infected houses be excluded from school? While the contagiousness of diphtheria is even doubted by some, and while writers of large experience and close observation say they never have seen a case of diphtheria develop through a third party, we may well question both the wisdom and the right of excluding these children in infected houses from attending school. It interferes very materially with educational plans at times, and if the exclusion is based on nothing better than a theory or even a probability, it seems to me an injustice to attempt to enforce the regulation. The same remarks will apply to members of families attending social or other gatherings while the disease continues. I should favor action on the part of this association that would bring before the health department the matter of the propriety of excluding from schools well children in houses infected with diphtheria.

11. What is the relative value of isolation (a.), of the person (b.), of immediate destruction of fomites? From what we think we know of the spread of the disease these measures would be equally important, although from what we are sure we do not know, we can be equally persuaded that we should not have entire control of the spread of the infection if these measures were ever so rigidly enforced.

12. What would be the result upon diphtheria in Brooklyn if all the house drains and public sewers were kept pure in the same cleanliness, or if organic processes and products in their walls and contents were chemically destroyed? So many cases of diphtheria develop in houses with perfect drains and in houses with no drains and in places where there are no public sewers that I should feel disposed to believe that Brooklyn would be no better off if such an impossible piece of work could be accomplished.

13. Is there more hope of saving life by practicable but now unused means of prevention than by any present or probable means of remedial treatment? No experience available, it seems to me, can enable us to make more than a guess in answer to this question, and such a guess would be worthless.

The above suggestions although necessarily made without elaboration are the outcome of the usual experience in the management of cases of diphtheria, but are held subject at all times to prompt revision when a satisfactory reason is furnished.

J. D. SULLIVAN, M.D.—

My experience has convinced me that the sixth question on the programme should be answered in the affirmative. I believe in the germ origin of diphtheria, although the systemic infection may be due to poisons such as ptomaines, which have sprung into existence through the agency of the microbe. At the Ninth International Medical Congress Dr. Semmola advanced the view that "The true part played by bacteria in pathology is the production by them of certain noxious and decomposed elements of the blood, which substances, and not the bacteria, are the potent factors in the causation of disease." Independent of the local obstruction in the respiratory tract caused by the false membrane, all the serious phenomena of diphtheria may be traced to a peculiar septic condition of the blood. Could it not be termed a *ptomainæmia* as suggested by Dr. J. R. Barnett, in speaking of the pathology of typhoid fever? If we admit that the chief dangers of the disease arise from a poisoned condition of the blood, it is at least logical to infer that remedies which tend to arrest the production of those ptomaines, or render them innocuous, without necessarily destroying the vitality of the bacteria, would give better results than remedies which simply "obviate the tendency to death" by supporting the general system. During the last few years I have based my treatment on this "supposed cause" and I have had far better results than I did in former years when I relied mainly on supporting remedies.

I have treated many cases with the bichloride of mercury in combination with tincture of the chloride of iron, and I feel certain that I obtained better results than I formerly did either with tincture of chloride of iron alone, or in combination with chlorate of potassium.

I have seen numerous well-marked cases of diphtheria arrested and recover rapidly, in which the main treatment consisted in giving a cathartic dose of calomel and followed by moderate doses of salicylate of ammonium every three or four hours for the first day and then at longer intervals for a few days. I believe that the salicylate of ammonium exerts a curative action by tending to retard, and possibly inhibit, the development of septic elements in the system. But this drug cannot be continued very long on account of its depressing effect on the heart and respiratory function. Its therapeutic effect may be obtained, however, by administering it within the proper limits, but it is well to keep in mind the fact that it is capable of doing harm when those limits are exceeded. Recently I have been using the fluid extract of cubebs with the salicylate of ammonium in small doses, frequently repeated and the results have been remarkably good. The point which I wish to emphasize in these remarks is that I have had a much larger percentage of recoveries in those cases treated with the salicylate of ammonium and the bichloride of mercury than I formery did without those antiseptics, although, in other respects, the treatment has been the same. I usually prescribe the mercuric bichloride in combination with tincture of the chloride of iron in doses from $1/48$ to $1/32$ of a grain every three or four hours, and give the salicylate of ammonium in moderate doses at the same intervals, alternating the mixtures at each dose.

I deem it good practice to keep the fauces and nares as clean as possible, and for this purpose I usually use a solution of mercuric bichloride in from 1 to 1000 to 1 to 2000, in form of a spray—using only a small quantity at each application.

W. H. THAYER, M.D.

In answer to some of the questions propounded by Dr. Segur, I offer the following brief statements and opinions:

Query 2. Yes.

Query 4. Yes. In the epidemic of 1858, there was a large proportion of fatal cases. Orange, Conn., was one of the first places visited by the disease in New England, where of the first fifteen cases fourteen were fatal. An extreme case, but the mortality was frequently twenty-five or thirty per centum, whereas now it does not probably exceed five per centum.

Query 5. Yes. It is due partly, but not wholly, to better treatment. Not wholly, for the general plan of treatment has not materially changed.

Query 6. The treatment almost from the earliest experience of the present epidemic in England and America has been unintentionally germicidal as well as supporting. Tincture of the chloride of iron, chlorate of potassium and alcohol have been relied upon very generally since 1858 as the main medicines required; and the bichloride of mercury, lately introduced, is a remedy of similar character.

Query 7. Universal experience has discovered the necessity of the free use of alcohol in cases of any severity, and the tolerance is very great. I treated a child eighteen months old exclusively with whiskey, of which it took six ounces daily for several days in an equal quantity of syrup, without exhibiting any excitement. The child recovered.

The late Dr. E. N. Chapman, of this city, advocated the treatment of diphtheria by alcohol and quinine alone, and presented several reports on this subject to the Medical Society of the County of Kings. His results are so remarkably good that they would hardly be accepted on any authority which was not as reliable as his. He says: "In 1858 and 1860, whilst employing the means then in vogue, I lost every third or fourth case; but immediately after instituting an opposite treatment, though the epidemic was at its worst, not more than one in twenty." At the time of his last report, 1878, he had treated one hundred and twenty-five cases of diphtheria in the seventeen years since 1861, with only one fatal case. His method since

1861 had been the administration of alcohol from the outset, in hourly doses as large as the case required, with quinia until convalescence was established. During nine years of that time diphtheria was only sporadic, and generally milder than when it had been epidemic—which, doubtless, aided in giving him a better result than usual. His large experience and sound scientific character render his testimony absolutely reliable. No one else can probably report results nearly as favorable, but it is doubtful whether any one else has given his method a thorough trial; we all have our favorite measures, which we do not readily exchange for any other. Dr. Chapman says: "Alcohol neutralizes the diphtheritic poison, sets free the nerves of animal life, subdues the fever and inflammation, destroys the pabulum that sustains the membrane, cuts short the disease, conquers its sequels, and shields other members of the family from an attack." "Alcohol is as antagonistic to diphtheria as belladonna is to opium, or quinia to malaria. Like any other antidote, it must be given promptly at the outset, as otherwise its potency will be lessened, perhaps lost altogether."

"Alcohol does not act as a stimulant, nor induce any of its ordinary effects. Enough may be given to cause profound intoxication in health, and yet there exist no signs of intoxication or odor in the breath. Hence, at a late stage of the disease it is of little avail."

Query 8. Corrosive sublimate very often is more prompt in its action, as evinced by the disappearance of the exudation, than the tincture of the chloride of iron.

A professional friend in Massachusetts related to me an experience of eight persons in one family, all treated with corrosive sublimate, of whom seven died. Which leads me to the very important consideration that no medicine whatever can be expected to have any success in the treatment of diphtheria, if the atmosphere of the room is permitted to become very infectious by want of free ventilation. The infected atmosphere must be repoisoning the blood faster than alcohol or corrosive sublimate or chloride of iron or anything else can restore it. I have never found any toxic effect from the continued use of corrosive sublimate for three or four days, or until all symptoms of diphtheria have disappeared, in doses of one-fortieth to one-twentieth of a grain every two hours, according to age.

In the use of alcohol, muriated tincture of iron, or bichloride of mercury, the success depends upon early treatment. Diphtheria is generally a curable disease if seen on the first day, but as in rattlesnake bite, after extensive disintegration of blood corpuscles, nothing is available to save life.

Tracheotomy is demanded when death by apnœa is imminent, with very little expectation of saving life, but to relieve the agony, and incidentally prolong life.

Query 10. Cleanliness and thorough ventilation are the important measures of prevention. The infection of diphtheria does not extend beyond the sick room, if the air in this room is freely changed. It becomes innocuous by diffusion through the outer air by chimneys and open windows. So that there is no fear for the neighborhood. And if the patient is in an upper room, there is no extension of the disease to other parts of the house.

All persons who are necessarily in the sick room should take small doses of chlorate of potassium every two or three hours, or several times a day some brandy or whiskey.

There is no reason for keeping the well children away from school, if they are never in the sick room and the sick room is well ventilated, and fomites are promptly destroyed or disinfected. It is by the spoons, forks, cups, etc., used by the patient, and by close attendance upon him, that infection occurs. Bretonneau thought there was no infection beyond this. I doubt whether it is ever carried in the clothes of an attendant, unless he has been long in a room where an infectious atmosphere has been produced by great neglect of ventilation and cleanliness.

There is no exact time requisite for the exclusion of a patient from school after diphtheria. When all symptoms of the disease have disappeared, he is no longer a source of infection.

It is well known that adults are much less susceptible to the infection of diphtheria than children. In all my experience diphtheria has rarely extended to the adults of a family, unless in the case of one in constant attendance upon the patient. In the summer of 1863, I had during the whole of July and August at least one case of diphtheria all the time in my hospital tents, without any extension of the disease to other patients—the sides of the tents being constantly rolled up, so that there was unobstructed circulation of air.

But children should never be permitted to enter the sick room. And if the patient is on the upper floor, with no other children in the same story, I do not believe that any extension of the disease is possible. It is very desirable that there should be some modification of the restrictions imposed by our Health Ordinances, upon all children living in the house where diphtheria is present. The ordinance peremptorily excludes such children from school. I believe that it should be left with the attending physician to decide in every case occurring in a private family, where isolation can be complete. At present, there are doubtless many cases never reported, because the physician prefers to assume the responsibility of disregarding the ordinance, rather than subject the children of a family to a serious interruption to their studies, where he deems it entirely unnecessary, from the circumstances of the case and his conviction that he is exposing no one to the danger of infection. I recall the experience of a large family of children, whose school education has been disastrously interrupted year after year by the recurrence of measles or scarlet fever in one and another of them, making a break of three or four weeks at a time in their studies—an unjustifiable restriction, if there be no real danger of infection.

The exciting cause of diphtheria is something which requires for its continuance some unknown atmospheric conditions ; whether being such as govern the lives of the micro-organisms which are generally supposed to produce the disease, cannot be decided at present.

The facts in evidence of this widely diffused atmospheric cause are the following:

Diphtheria prevailed in France for forty years, during which time it was unknown in England. It then suddenly appeared in England, and almost simultaneously in all parts of the United States from Maine to California. It is abundantly proved to be infectious and contagious; but the infection never carried it across the English Channel in forty years.

Many recorded epidemics of diphtheria have entirely ceased after some years, leaving long intervals of time before their reappearance.

In the United States, the epidemic which began in 1858, began to decline in all parts of the country simultaneously in 1864, and for the eight years following diphtheria existed only sporadically. The change was evidently due to no local sanitary measures, for the mortality reports of Boston and Philadelphia showed the same remarkable abatement as those of New York and Brooklyn.

Thus the use of the term "epidemic constitution of the year," has some justification; a peculiar general condition exists, independently of the development of micro-organisms within the body.

The history of cholera furnishes an analogy to this history of diphtheria. The comma bacillus is a recognized factor in the causation of cholera, and we succeed in promptly arresting an epidemic by destruction of the evacuations and general purification. But at the period of the epidemic of 1849 and before that time, there was no knowledge of the dependence of cholera infection upon the dejections, and no attempts were made to disinfect them, no provisions whatever against infection. Yet the epidemics terminated in a few months. Their duration was no longer than was the epidemic in 1866, when the most careful and systematic disinfection was employed. This may not militate against the belief in the micro-organism as the cause of cholera, but it helps to prove that the life of the micro-organism is controlled by some general influence which does not constantly exist, and is not certainly within our control. And the inference applies equally to the question of diphtheria.

WILLIAM MCCOLLOM, M.D.—

The subject under discussion is one of so much interest to the general practitioner of medicine, that it cannot be other than profitable to give it frequent and careful consideration. So much has been written upon diphtheria in the last thirty years, and we now have so much classic literature—much of it of recent date—that it is difficult to say anything new or that has not been said, of interest, but an interchange of opinion based on observation and experience, should help to establish more unanimity of opinion and practice. At present, as in the past, there appears to be marked diversity of opinion as it regards treatment, and we have yet much to learn.

The last census reports show that only two other diseases are as destructive to life. Tubercular consumption ranks first, pneumonia second, and diphtheria third on the list. Diphtheria has, no doubt, been a long time in the world known by other names. About thirty-five years ago European writers so graphically described the disease under the name of diphtheria, that special attention was called to the subject.

In 1858, thirty years ago, cases were reported as having appeared on the Pacific Slope, and, so far as I know, these covered the first cases noted as diphtheria in this country. A year or two later we had reports from different parts of the country that the disease was prevailing epidemically, with percentage of mortality large.

My first experience with diphtheria was in the year 1859, at Woodstock, Vt., and I saw 500 or more well-marked cases during the five following years, a good many more cases than I have seen in Brooklyn in a practice of twenty years.

The State contained about 325,000 inhabitants, and, if my memory serves me, nearly thirteen hundred died of the disease in one year. Perhaps no State in the Union has suffered more, or had greater proportionate mortality from diphtheria than Vermont. I notice this fact for its bearing upon the last question raised in the opening paper by Dr. Segur.

It is questionable, I think, whether the condition of the house drains and public sewers have much to do in producing the disease. Physicians who have only made a study of cases occurring in the cities are inclined to the belief that sewer gas is a potent factor in causing and propagating the malady. Poisoning sewer gases, like other depressing influences which lessen vital resisting power, predispose to, by fitting the soil for the germ to take root in whenever it is present in the atmosphere. Of the origin of the germs we know nothing; that they are abundantly present in the air we breathe, at times when the atmosphere is not contaminated by bad drainage, sewer gases, soil saturation, or general malarial influence, is evident beyond question.

In my early study of the subject, in a region of the country, where, by reason of unevenness of the surface, sandy soil, without clay bottom, the drainage was perfect, the epidemic was of the severest type. It prevailed alike in the valleys, on the hill sides, and on the higher mountain ranges, breaking out in isolated farm houses where the children of the families had not mingled with each other, nor had communication with infected districts. The disease would appear in farm houses on the mountain sides in mid-winter when nothing unsanitary could be discovered on the premises. The frame house with wood fires: the drinking water brought in bored logs from running springs on higher elevations, and running into an overflowing holder in the yard, forming an ice-bank below. The water-closet an out-house where everything falling into it was promptly frozen solid, and remained so for four months in the year.

It prevailed alike in mid-winter and mid-summer, alike in the valleys and in the mountains, as much or more in the high-lying farm houses as in the villages in the valleys.

This region of country was entirely free from malaria. I never saw a case of remittent or intermittent fever there other than an imported one.

Dr. Alonzo Clarke many years ago, stated in a communication upon the subject that diphtheria was essentially a disease of the country, and the census report shows that it is more destructive to life in the rural districts than in the city.

Dr. Billings, of the army, after examining the maps made by the census department, showing the distribution of diphtheria in the eastern and northern portions of the country, says, "The disease cannot be due to any peculiarity of climate, of geological formations, of topography, or of methods of filth disposal."

If it be as infectious and contagious as many believe, we should expect it to prevail most, in densely populated centers, in crowded districts; as is the case with contagious and infectious diseases, without, perhaps, an exception. On the contrary, the mortality has been proportionately greater in sparsely settled rural districts where the children of families mingle little with each other. Still we have evidence that to some degree it is infectious, and probably contagious, and consequently we should leave nothing undone which can be done to prevent its extension.

It is not well, however, to teach the public that the prime cause of the disease is in defective plumbing, bad drainage and sewer gas poisoning, for when such belief is established and a fatal case occurs in a family, much fear is engendered and the home is broken up, the house abandoned, if a rented house, and many times for no good reason.

My observation has led me to believe that diphtheria is first, local, with secondary systemic infection. Sometimes the germs take root in the nares, more often on tonsils or pharynx, and occasionally in larynx and trachea. The focus of infection can often be defined. The general follows the local, and so long as the microbe multiply in the nares or fauces, so long the systemic poisoning goes on unchecked.

When cases are seen very early as they are seen in second cases in a family, when we are watching for the first symptoms, and efficient local remedies are used, the course and character of the disease is rendered milder and more manageable as a rule. This fact would indicate that primarily the disease is local. If this be so, too much attention cannot be given to the stage of invasion.

In the light of more recent investigation as it relates to micro-organisms as causes of infectious and contagious diseases it is fair to presume that diphtheria is of microbic origin, and first local. In accordance with this theory I would make use, at the earliest possible period, of germicide applications to the more common sites of infection. After making trial of many of the popular remedies recommended for local application, I am convinced after four years of trial, in a good number of cases, that bi-chloride of mercury, one to five hundred, is the bacillicide and antiseptic *par excellence*.

On my first visit I order an atomizer, with long mouth tube, preferably a hard rubber one, and direct it to be carefully used so that the spray shall be carried low down in the pharynx directing the patient to expire through the nose, so as to reach the naso-pharynx and nasal passages as fully as possible, this to be used hourly during the day, and every second hour during the night. Careful directions are given as to the number of times the atomizer bulb shall be compressed so as not to administer to a young child more than ten drops each time of the solution. Most of this is absorbed or swallowed, and the patient gets both the local and systemic action of the agent.

I have frequently observed that when used early and persistently, the growth of exudate is checked, and it appears to melt away under its influence.

It has seemed to me that when the germs have passed from the mucous membrane to the glands of the neck the bichloride has been absorbed, following and destroying them. In evidence of this I have noticed the progress of glandular enlargement cease, and many times an early subsidence of the swelling, too marked in too many cases to be accounted for in any other way.

I cannot too earnestly emphasize the importance of this method of using mercury. It has long been used for its general action, and has grown into favor in recent years, then why not use it in a way to ensure its best local, as well as general effects?

If it be used before much membrane has accumulated, other applications can be dispensed with.

For nearly thirty years it has been my practice to give all the broken ice the patient will take, during the first or inflammatory stage, and in young children with tonsils much swollen, to make continued application of the same externally over the enlarged glands. I was led to this method from personal comfort, and benefit experienced while suffering from a very severe type of the disease in the year 1859. Both personal experience and observation make me sure that it is an important method in many cases.

In a later stage when membrane in considerable amount has accumulated, and particularly if hoarseness or cough is present, I have found the inhalation of vapor of boiling acetic acid or vinegar and water, of special benefit—of more benefit than the alkaline vapors, like that of slacking lime.

Time and space will not allow me to notice my experience with several other local remedies tried, some of them of real, though less value than the three named.

From my earliest experience I have used alcohol in some form and used it freely. I would place it first on the list of remedial agents and advise its use in all cases.

While it is true that we have diphtheria without severe constitutional symptoms that recover without drug treatment, we should not neglect to treat all cases actively as soon as the diagnosis is made, for all who have had much experience know, that some cases appearing to be very mild in onset, terminate fatally, while other cases appearing to be severe attacks run a mild course ; so it is only safe to carefully watch and actively treat all cases, not wait for them to become bad cases.

The fact that alcoholic drinks can be taken by women and children who are specially sensitive to its effects in health, when suffering from the severer forms of the disease, in quantity large enough to produce complete intoxication in health without any appearance of over-stimulation, is evidence to my mind that its use is indicated. It is used up in the system and acts perhaps, in some way, as an antidote to the poison. The limit of tolerance should be short of appearance of intoxication, or elimination through the lungs to be noticeable in the breath.

I have long used the tincture of the chloride of iron and the chlorate of potassium, but I have often questioned whether either was of much benefit only in special conditions. I cannot rank them as very valuable agents.

All cases should not be managed alike for conditions differ widely in different cases.

I believe specially in tracheotomy when surgical interference is required, and I have had a little experience in that way with results as good as the average.

I have seen three cases recover from diphtheritic membranous croup without operation. I suffered in my own person from laryngeal and tracheal membrane, and expectorated several pieces of the same, days after the exudate had disappeared from all points above the glottis.

I suffered also severely from diphtheritic paralysis. I could not dress myself for three months without aid. Then I had time to examine the scanty literature of the time as it related to pathology and treatment.

Of the pathology we know little if any more at the present time.

I made trial of the nerve tonics, quinia, strychnia, phosphorus and iron, and without benefit. Then, thinking it probable that the poison producing the disease might be retained in the system and still act upon the nervous centers, I made use of eliminative agents which acted freely upon the intestinal glands, and upon the kidneys, with irritant and stimulant applications to all the extremities ; then recovery was prompt and complete.

Subsequently, I treated satisfactorily several cases after this plan with sulphate of magnesia, iodide of potassium with stimulating applications and frictures to the skin of body and limbs.

The paralysis, developed during convalescence, usually first effects the nerves of vision, speech, and deglutition. When it becomes general, both sensitive and motor nerves are involved. Cardiac paralysis comes on later, as a rule. Recovery is commonly in order of accession.

The course of the disease would indicate, in changing from one class of nerves to another, with complete recovery, as a rule, that the cause is not a neuritis or due to central or structural lesions.

It is probable that the virus remains in the system, or, as Dr. A. Jacobi has suggested, "poisonous leucomaines are liberated," effecting changes in the nerve centers, and deranging function without producing stuctural change discoverable on *post-mortem* examination.

Too much care cannot be taken to guard the patient when paralysis is present, against over exertion. The recumbent posture should be enjoined whenever there appears the least cardiac irregularity.

I remember one case in a young man who would not take advice, and who fell dead from heart failure while walking about the room.

In the milder type of the disease in recent years, I have seen comparatively little paralysis follow the acute stage.

NEW BOOKS AND PAMPHLETS.

ATLAS OF VENEREAL AND SKIN DISEASES: Comprising Original Contributions and Selections from the Works of Dr. M. Kaposi of Vienna; Dr. J. Hutchinson, of London; Dr. I. Neumann, of Vienna; Drs. A. Fournier and A. Hardy; and Drs. Ricord, Cullerrier, Besiner and Vidal, of Paris; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York; and others. Edited by Prince A. Morrow, A. M., M. D., Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology, in the University of the City of New York; Surgeon to Charity Hospital, etc. New York: William Wood & Company, 1888.

(*Continued from p.* 485.)

In our last issue we had completed, in the consideration of this atlas, the venereal part of the work. We will take up now the skin portion with its plates. We may note in passing that the claim of the publishers is that "in this work particular attention is given to the common forms of skin diseases, and included in it not only as a valuable independent feature, but also as a practical means of differential diagnosis, are the eruptive fevers, as rubeola, scarlatina, erysipelas, variola, varicella-vaccinia, etc., *not found in any other work of the kind.*" If this be true, we have, beyond peradventure of a doubt, a valuable addition to a skin atlas.

The author gives this brief prospectus of his work: "In a work which proposes to deal chiefly with the clinical aspects of diseases of the skin, the study of the structure of this organ in a state of health, its physiology, as well as many details relating to its pathological anatomy must be omitted. The text will be devoted principally to the consideration of the nature, cause, clinical features, diagnosis, and treatment of the more important dermatoses, especial attention being given to the description of the objective characters of the different diseases. Taken in connection with the plates, in which the shades of coloration of the lesion, as well as the details of their configuration and distribution are represented, it is hoped that the special nature of each eruption and the differential characters which distinguish it from other eruptions will be as readily recognizable as from the examination of the living subjects."

Then follows the value of objective symptoms and an account of the primary and secondary lesions all clearly and concisely stated. He opens his paragraph in classification thus: "It is the ambition of most writers on dermatology to put forward a new classification of diseases of the skin. The temptation doubtless arise from the recognition of obvious defects in all the systems hitherto constructed; too often, however, the result does not justify the innovation, the new classification presenting few of the advantages, with all of the inconveniences of those it was intended to replace." He thinks the natural and scientific classification would be based on the etiology, but that we are not yet sufficiently informed to "assign to each factor (exciting and predisposing) the precise measure of its pathogenetic influence," and he gives, with slight modifications, the arrangement according to the classification adopted by the American Dermatological Association.

The first plate gives representations of seborrhœa sicca, comedo, nulium and sudamina. Each figure is well done. But the next plate, representing typhus and typhoid fever, is by all odds the cream of the work. Indeed, it is beautiful, whether regarded from an artistic or realistic standpoint. We do not know when we have ever seen a plate coming nearer an ideal standard. The one representing the eruption of variola on a man's back is another triumph of art. If we have been unsparing in our praise of these, we can be quite as free in our condemnation of the representation of facial erysipelas. While one could guess what it is intended to represent, it is entirely unworthy of a place in an album with as good figures as those we have mentioned. The strawberry tongue is a little overdone, but the skin eruption of scarlatina is good. The crescentic lesions of rubeola are perhaps a little plainer on the plate than we would see them on the patient, but this is not a bad way to prominently recall that differential point. Rötheln is well done; and if we could always get in practice as well marked differences between it and measles, the diagnosis would not be a matter of much difficulty. These complete Fasciculus VIII., and taking the number as a whole, it surpasses anything else hitherto presented in the collection.

Fasciculus IX. presents plates with figures of erythema marginatum, erythema papulatum, erythema iris et carcinatum, herpes iris, erythema nodosum, urticaria, urticaria pigmentosa, eczema capitis, eczema faciei, eczema papulosum, vesiculosum et impetiginosum, squamosum.

Perhaps the most successful figures in this group are those of urticaria and urticaria pigmentosa, and erythema nodosum. The effect of the "urticaire" written across the patient's abdomen is beautiful. Not only this, but the way the color starts and is lost or merges into white on the summit of the whole is brought out with great fidelity to nature. If the plate of erythema nodosum had brought out a later stage, where the red color gives way to the greenish hue and simulates a bruise, the general effect would be better. The eczema capitis is well done, and is a familiar and standard representation from the Sydenham collection, and has been given by a number of writers on skin diseases. Hebra is the source of most of the other illustrations.

The number is well up to the average, and if all of the fasciculi of skin diseases are as well done as the first two, the skin part of the Atlas will be superior to the venereal.

CLINICAL LECTURES ON CERTAIN DISEASES OF THE NERVOUS SYSTEM. By J. M. Charcot, Member of the Institute and the Academy of Medicine, etc., etc. Translated by E. P. Hurd, M.D., Member of the Massachusetts Medical Society, of the Climatological Society, Newburyport, Mass. 1888. Geo. S. Davis, Detroit, Mich.

This number of the "Physician's Leisure Library," from the pen of the distinguished French scientist is an interesting addition to the series. It is concerned especially with hysteria, and more specifically with hysteria in the male. It is a good idea to have the fact that hysteria is more common in the male than generally believed, thus prominently brought to the notice of medical men. The lectures are entitled "Spiritism," "Hysteria," "Isolation in the Treatment of Hysteria," "Choreiform Movements and Tremblings," "Rhythmical Chorea," "Muscular Atrophy Consequent on Certain Articular Lesions," "Contractures of Traumatic Origin," "Muscular Atrophy Consecutive to Articular Rheumatism," "Six Cases of Hysteria in the Male Subject."

The translator's preface gives an interesting résumé of the writings of Dr. Charcot.

The book reads easily and is full of interest. It is not necessary to say anything about the work as a translation as Dr. Hurd always gives a good, clear, English equivalent of the French.

PHARMACY AND THERAPEUTICS.

DR. A. RAOULT has reviewed, in the *Progres Medical*, some recent investigations upon the following subjects:

Paraldehyde.—This acts first upon the cerebral gray matter, producing sleep, and then upon the medulla, and finally upon the spinal cord. Administered in a fatal dose, the functions of the medulla cease, but respiration is abolished before cardiac contraction. Its hypnotic action is not preceded by a period of excitement, as in the case of other remedies of the same class. It is admirable in insomnia of febrile cases and in nervous and mental diseases. Paraldehyde is a hypnotic, not an analgenic. Its effects resemble those of chloral, but without the heart disturbance, so that it can be employed in adynamic states with perfect safety. Its bitter, penetrating taste may be concealed by the syrup of bitter orange peel. The minimum dose is one drachm, but it is better to give it thus and repeat every hour until the desired effect is produced.

Agaricine.—This may be given in doses of one-twelfth to one-half grain. It has been employed in cases of abnormal secretion, particularly the sweating of phthisis. It is well to continue it with atropin, opium, or Dover's powder, for it frequently causes nausea, abdominal pains and diarrhœa.

Strophanthus.—The action of this drug is upon the cardiac muscle, the contractions of which become more energetic and increase thus the blood pressure. After the same manner is the renal secretion affected by it. It also lowers the temperature. It will advantageously take the place of digitalis, as it does not produce contraction of the arterioles like the latter. In the hands of the author it has produced no gastric troubles, nausea, or vomiting. Its diuretic action is not fully established. It is preferable to administer it in small doses, frequently repeated, rather than in large doses.

Pyridine.—(C_5H_5N) is a colorless, volatile liquid, with a sharp, piercing odor and taste, which is extracted from bones and coal tar. It is found also in the combustion products of tobacco, nitre-paper and other organic substances. It is a stimulant of the motor centres and nerve terminations (Harnach I. Meyer). According to Bochefontaine, it is also a local irritant, and when injected into the blood current produces death by paralysis. It diminishes the reflex excitability of the cord and of the respiratory centres (G. Sée). It excites the fifth nerve and the respiratory centre, which it afterwards paralyzes (Silva). When employed internally, it diminishes the number of the heart-beats, while increasing the force of the systole. It increases the blood pressure and steadies the action of the heart. It also diminishes the frequency of the respirations (Renzi). It is recommended in asystole and in angina pectoris in doses of six to ten drops a day, increasing up to twenty-five. It may also be employed by inhalation either directly or mixed with water.

Canadol.—Extracted from naphtha. This is a limpid, volatile, very inflammable liquid, having the odor of benzine, and being insoluble in water and alcohol. A local anæsthetic by vaporization (thirty to ninety seconds), it is useful in minor operations in place of ether.

Citisine.—A contraction of the walls of the blood-vessels seems to be the principal effect of this drug. After the administration of one-twentieth grain of the nitrate, an attack of migraine disappeared in half an hour (Kraeplin).

Scopoleine and Rotoine.—Two substances obtained from scopolia japonica. They produce dilatation of the pupil like atropine and daturine. According to Schmidt, of Marbourg, scopoleine is a mixture of daturine, atropine and hyoscine. Rotoine is a combination of alkaline bases with fatty acids.—*Gazette Médicale.*

TRYPSIN IN DIPHTHERIA.—The following formula is employed as an antiseptic and dissolvent in the treatment of diphtheria in children :

℞.—Trypsin	2 grammes.
Bicarbonate of soda	2 "
Bichloride of mercury	15 milligrams.
Glycerin	4 grammes.
Water of roses	30 "

Sig.—To be used in a spray.

—*Jour. de Med.*

DR. CHARLES H. MERZ, the house physician to University Hospital, at Cleveland, Ohio, April 25th, 1887, said : "I have made use of PAPINE for some time past, both in hospital and private practice, and find it a most agreeable substitute for Morphine and Opium. It is the anodyne *par excellence.*"

SALOL is being largely used in diarrhœa and dysentery. It is given in powder alone or with bismuth, in doses of gr. I to v of the former to gr. v to xv of the latter.

THE standard antiseptic dressing in Paris now is: Iodoform, gram. 2½ ; oil of eucalyptus, gram. 20 ; paraffine, gram. 50 ; vaseline, gram. 50. It is especially used upon ulcers.—*Practice.*

AGARICIN FOR THE SWEATS OF PHTHISIS.—Lauschmann (*Pest. Med. Chir. Pr.*, 1887, Bd. 4) recommends the following formula :

℞. Agaricin,	gr. j.
Pulv. ipepac. et opii,	gr. xv.
Gum Arabic,	
Pulv. alth.	āā gr. viij. M.

Ft. Pil. No. xv.

S. One or two pills at night.

MISCELLANEOUS.

REMARKS ON ENDOSCOPY WITH THE ELECTRIC LIGHT.* (Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary).—It is now twenty years since I first brought under the notice of the Liverpool Medical Society the means then at our disposal for making an ocular inspection of the bladder and urethra, in both male and female. I then demonstrated my remarks with Desormeaux's instrument as improved, so far as the illuminating power was concerned, by Dr. Cruise of Dublin. During the interval that has elapsed, endoscopy, like many other appliances in surgery, has made considerable advances, the electric light has taken the place of paraffin, and I am now enabled to show you an instrument which promises to be of much value in illuminating not only the bladder and urethra, but other parts of the body. The instrument I refer to is one which, I understand, is the work of Mr. Leiter of Vienna, though I see in *The Lancet* of April 21st that Dr. Max Nitze of Berlin claims a priority for its invention. It consists of a plunge battery of six cells and the connecting wires, by means of which the electric current is conducted along the various instruments containing the illuminating apparatus. For the examination of the bladder we employ a hollow sound, with a miniature Swan's incandescent lamp in its extremity, by means of which an extremely powerful light is obtained. For the complete examination of the bladder two of these sounds are required, one being fitted to allow of the inspection of the anterior, and the other the posterior aspect of the viscus. The examination of the urethra and rectum is conducted in a different way; here the light is not generated at the end of the instrument, but is reflected down a tube by means of a mirror. As the light is placed for the latter purpose between the eye of the observer and the orifice of the speculum, some care is necessary in using tubes of different calibres, in seeing that the electric lamp is placed relatively to the mirror at such an angle as to throw the ray of light directly down the tube. In regulating the amount of light employed, some care in the use of the rheostat is also necessary, as if too large a charge is suddenly generated, it may result in the destruction of the little lamp. In case of such an accident happening, it is quite easy to replace the lamp without further damage to the instrument or any detriment to the patient. One of the first advantages claimed for the instrument is the safety with which it can be used. In an older instrument, which has been referred to as the Nitze-Leiter, so much heat was produced that it was necessary to provide a constant current of cold water to prevent any damage being done to the structures, and this rendered the apparatus somewhat cumbersome. Still, in spite of this inconvenience, some good work was done with it by Dr. Oberlaender of Dresden in depicting morbid appearances presented by the urethra, as you will see from the plates accompanying his paper.* In the use of the new cystoscope it is necessary that the bladder shall contain five or six ounces of clear water; this allows of the instrument being manipulated with perfect safety, whereas if the lamp is burned in the air, or in a space not thus protected, it becomes hot. One obstacle to the successful use of the instrument in the bladder is the liability of the injected water to become tinged with blood. When this is the case the instrument must be removed and fresh water introduced until all blood staining has ceased. As it is in doubtful cases of vesical hæmaturia that electric endoscopy is likely to be of considerable service, I am endeavoring, with the assistance of Mr. Schall, of Wigmore Street, to arrange so that the bladder may be irrigated and refilled with water, when the latter by any cause loses its transparency, without removing the cystoscope from the bladder. This is an important point, which I hope to secure, as the use of the endoscope as an instrument of precision will thereby be much enhanced. There is one other source of difficulty I have encountered in the examination of the bladder, and that occasionally arises from the inability of the latter to contain a sufficient quantity of injected water for the convenient use of the instrument. In one instance which has come under my notice this difficulty was considerably got over by first injecting the bladder with a ten per cent. solution of cocaine.

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* Read before the Liverpool Medical Institution, April 26th, 1888.

Speaking generally of electric endoscopy, I think its chief value will be found, not in supplanting other means of diagnosis, but in providing the additional link which in certain cases is necessary to make the chain of evidence complete. Take, for instance, a case of hæmaturia, where we have good reasons for concluding the blood comes from the bladder. Though we may believe that the source of this is a tumor of some kind, we are quite unable to come to a positive conclusion upon this point until we either discover it by the microscopic examination of a portion of the growth which has been accidentally discharged, or until the interior of the bladder has been explored by the finger. With the electric endoscope, I have not the least doubt that, in the great majority of cases where hæmorrhage proceeds from a vesical growth, the source of the bleeding may be discovered at an early period of its occurrence, and not, as it now often happens, until the disease has made considerable progress. Again, we not unfrequently meet with cases where, with much functional disturbance of the bladder, more or less pus is contained in acid and otherwise healthy urine. Here the new endoscope will often be of service in showing us ulcerous and tuberculous surfaces within the bladder, which previously we had no means of actually demonstrating. In the diagnosis and treatment of stone and stricture of the urethra I do not think there is much left for endoscopy to do. If the sense of touch is not sufficient to enable the surgeon to detect the presence of a calculus in the bladder, or to manipulate an instrument through a tight stricture, I do not believe he will be likely to derive much assistance from the endoscope.

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* Vierteljahreschrift für Dermatologie und Syphilis. Wien, 1887.

Whether seeing under such circumstances would enhance the value of educated feeling I very much doubt. In some chronic forms of urethritis I have found that diagnosis and treatment may both be essentially aided by ocular inspection of the part, and by the facilities the endoscope affords for making direct applications to diseased surfaces. In these directions I venture to predict that electric endoscopy will be found, in conjunction with other approved appliances, of service to the practical surgeon.

NERVE STRETCHING (By N. P. Dandridge, M.D., Cincinnati).—*N. Y. Med. Record*, September 22 (Ass'n American Physicians), the following conclusions were presented:

1. That nerve stretching should be condemned in all forms of central disease, such as tabes, myelitis, etc.
2. That it offers little prospect of relief in tetanus.
3. That it should be regarded as a reliable method in cases of persistent neuralgia and peripheral paralysis of sensation in the extremities.
4. That stretching the facial is indicated in tic-convulsif.
5. That further trial is justified in reflex epilepsy.
6. That stretching the lingual should be tried in painful affections of the tongue.
7. That resection should always be preferred to stretching in the spinal accessory and in the branches of the fifth nerve except the lingual.

ANTISEPTIC SPONGES FOR GYNÆCOLOGICAL OPERATIONS.—The sponges are kept in the following solution for twenty-four hours:

℞.—Hydrarg. chlorid. corrosiv.	1 part.	
Acid carbolic	5 parts.	
Alcohol	60 "	
Aquæ bull.	500 "	—M.

The fluid is then expressed and the sponges dried in the air. After they have been thus disinfected, the sponges may be impregnated with one of the following solutions:

℞.—Acid boric	15 parts.	
Aquæ bull.	500 "	—M.

Or,

℞.—Acid tannic	30 parts.	
Aquæ bull.	500 "	—M.

Or,

℞.—Liq. ferri chlorid.	40 parts.	
Aquæ bull.	500 "	—M.

—*Medicin. Chirurg. Rundschau*, Oct. 1; from *Wiener Med. Wochenschr.*, No. 32, 1888 (*Journ. de Méd.*, July 29, 1888.)

ELEPHANTIASIS.—Helferich (*Deutsche Med. Wochenschr.*) reports a case of elephantiasis in which he excised strips of skin with the subcutaneous fat, and stitched the border of the longitudinal wound. Healing followed rapidly. Daily application of the induced current, massage and bandaging of the extremity resulted in restoring the use of the extremity.

TUBERCULOSIS A PROBABLE SEQUENCE OF INHERITED SYPHILIS.—Dr. Lake, an American physician, who has had extensive opportunities in dispensary practice of observing disease among the North American Indians, has recently published a paper in which he directs attention to the enormous spread among them of phthisis, and he attributes the degenerated type of the present native Indian to inherited syphilis.

Commenting on Dr. Lake's report, the *Medical Press* (August 22, 1888) says: "The history of syphilis among these Indians presents many interesting features, the most important being their present immunity from the primary disease. During the past five years but two cases of primary syphilis have been under treatment at the dispensary. In that time over two hundred cases of gonorrhœa are recorded, making it evident that the opportunity for the contraction of venereal disease exists to a large extent, but in their contact with the whites the Indian women seem no longer susceptible to the contagion of syphilis. The evidence of its previous existence are seen on every hand. According to the account given by the older Indians, and which statement is confirmed by white people, including two aged physicians who practiced among them at the time, about forty years ago syphilis became epidemic. It is stated by one of the physicians that hardly a family on the reservation escaped its ravages. A further inquiry develops the fact that previous to this time the disease was comparatively rare, only occurring in isolated instances. For ten or fifteen years it was a terrible scourge, since which time cases of the primary disease have gradually grown less frequent until the present time, when it has almost entirely disappeared. It is not possible that the disease has become so thoroughly incorporated into the blood of the race that each new generation is protected, as by inoculation, from the renewal of the affection? So far as he had been able to ascertain, before the appearance of the epidemic above described the people were fairly vigorous. The death-rate among them was not high, and cases of consumption and scrofula were comparatively rare. The next generation following the epidemic manifested many instances of scrofula, as well as of inherited syphilis. It is difficult to determine, from the history given, exactly which affection existed, the Indians describing them all under one general term, 'the bad disease.' No doubt in many cases there was an intermingling of both. In the second generation the various forms of scrofulosis were vastly increased, and phthisis became more common. Since this time it has become the most fruitful cause of death.

"One becomes impressed, by a careful study of these three affections among the people, of the probability of their relationship to each other. From what we know now of tubercle we have no difficulty in accepting this as regards scrofula and consumption, but there is much evidence presented in the physical history of these Indians going to prove that tubercular disease may originate from syphilis in preceding generations."—*London Hospital Gazette.*

ERYSIPELAS AS A REMEDY.—Paul Bruns (abst. in *Ctbl. f. Chir.*) gives a summary of all the cases reported in which erysipelas resulted in a cure of morbid growths. There were five sarcomas, of which three were cured; the remaining two were reduced in size, but afterward grew rapidly to their former size. In six cases in which the diagnosis between sarcoma and carcinoma was not positive, the erysipelas failed to produce cure. Three ulcerated epitheliomas also resisted the erysipelatous inflammation. Two cicatricial keloids and "several" lymphomas were cured by the erysipelas. Fehleisen inoculated the erysipelas coccus in five cases with partial success. Jahnicke cured one case of carcinoma of the mamma by inoculating the erysipelas germ.

THE WOMAN STABBER, RENWICK WILLIAMS.—The Whitechapel murders have turned the attention of journalists to the famous case of "The Monster," Renwick Williams, who was tried on July 8, 1790, at the Old Bailey. He was arraigned upon seven indictments for cutting and maiming several women. On May 5, 1789, he stabbed a woman in the hip; then he attacked a young lady coming from the play. On January 18, 1790, he stabbed Miss Annie Porter as she was coming from the Queen's palace. The whole of London was thrown into great excitement, and it was proposed that vigilance committees should be formed to apprehend him. He was the son of an apothecary in Carnaby Market, and was by trade an artificial flower maker. He was about thirty-five years of age, five feet seven inches in height; his very sharp features, carefully powdered hair and well-fitting clothes gave him a strong resemblance to the more famous sentimental blood-letter, Robespierre. At his trial he read a singular declaration of his innocence, couched in the inflated language popular at the end of the eighteenth century. He declared that he was "the warm friend and admirer of that sex whose cause was now asserted," and expressed as exalted sentiments as Robespierre was wont to deliver three years later. His mental condition was not called into question, nor was there any evidence to prove that his crimes were due to a morbid and perverted passion, or to sentimental hatred of women following disappointment in love. Renwick Williams was sentenced to six years' imprisonment, and bound over to find sureties. The once celebrated "Book of Wonderful Characters," which has immortalized him, concludes the report of his exploits as follows: "As we cannot find any further notice of this man, we suppose his sentence entirely eradicated those diabolical propensities which so degraded the name of Renwick Williams. What time he paid the debt of Nature is, therefore, uncertain."

TREATMENT OF PURULENT PLEURISY BY FREQUENT PUNCTURES AT SHORT INTERVALS.—Dr. Desplats, of the Lille School of Medicine, advocates this plan in preference to drainage through a permanent opening. The following are his conclusions:

1. When you suspect a purulent effusion do not wait, but make at once one, two, three exploratory punctures.
2. If the exploratory puncture reveals the presence of pus, evacuate immediately.
3. Having evacuated the pus, you ought to prevent a new collection by puncturing as often as is necessary, and at frequent intervals, without fearing white punctures. (This practice has the advantage of preventing the effects of the accumulation of pus, and of favoring the reunion of the walls of the pouch. If, later on, pleurotomy is necessary, you will not open the pleural cavity, but an encysted pouch.)
4. If the punctures do not suffice, or if they should have to be repeated too often, introduce a permanent siphon, avoiding the introduction of air.
5. Finally, if you meet with a septic centre for the disease which the early punctures do not modify, if, above all, the pus has a gangrenous odor, open freely without waiting. In such a case only will you wash out the cavity with antiseptic, cleansing lotions.—*Le Scalpel.*

INVALID.—"I have been here at these springs, doctor, six weeks, and I don't see that the water has had the slightest effect." Dr. Candid.—"You must have patience. There was a man here last season who didn't die until after he had been here two months."—*Texas Siftings.*

"SLOYD" AS A SYSTEMATIC TRAINING IN HANDWORK.—In Sweden, much success has been achieved in elaborating a system of manual instruction in woodwork suitable for use in schools. This work is called "sloyd," and, as an educational process, it appears an admirable preparation for technical education. The main differences between wood sloyd and ordinary carpentering, with which it is very apt to be confused, are these: 1. The objects made are usually smaller than those made in the trade. 2. As to tools used; the knife, for instance, is the most important of all in sloyd. 3. All parts of the work are done by the pupil. 4. The objects of sloyd are to develop the faculties, not to make carpenters. A careful choice is made of the models; the objects selected are such as may be used at home; both soft and hard woods are used. It is often a difficulty in medical practice to suggest amusement and occupation for patients who must keep indoors for a prolonged period, and who yet preserve an active temperament. It will also be useful for children where circumstances make it undesirable to employ a purely literary method of education. Sloyd is a form of work which calls forth every variety of movement, and exercises both sides of the body, for it is so arranged that the children can work with the left hand and arm as well as with the right in sawing, planing, etc. In the schools of Norway classes in sloyd are held for both boys and girls. An association has been formed for the introduction of sloyd into this country, and for the purpose of training teachers in the art.

THE USE AND ABUSE OF THE BRAIN.—In the course of an address on this subject, Dr. Wm. A. Hammond, of New York, recently said: "Anxiety causes more brain disorders than any other agency I know of unless it be love. Many jokes are made about the gray matter of the brain," said Dr. Hammond, "but I will say right here that I have a great respect for the gray matter of the brain. There is no higher organism than that. It is the grandest organ in man, and were I ever to worship anything, it would be a portion of the gray matter of the brain. It is well for us to know that the emotions cause more unhappiness and crime than any other function of the brain. Human beings are governed by their emotions, and it is well that they should be, though it is the emotions that wear away the brain, and not honest intellectual work. Very few people suffer from intellectual work, and if my memory serves me I do not recollect ever having a mathematician for a patient. It is not intellectual work that causes nervous dyspepsia, but the emotions, such as anxiety, fear, sorrow and love. I consider that eight hours are sufficient for a man to use his brain, because if he exceeds that time he becomes nervous and fretful, and an exhausted brain is an irritable brain. You may not feel the evil effects of the stress of brain work at the time, but you will sooner or later, when it is too late. The men that work at night with their brains are the ones that expose themselves to danger and death, which will surely come unless the great strain on the mind is lightened."

THE young doctor, with a reputation to make, always feels grateful when his patients get well. With the old and well-established physician the case is different. If his man dies he simply says, "Everybody must die," and the clergyman of his church comes to the funeral and stands in with him, and says, "The Lord giveth and the Lord taketh away," and there you are.—*New Orleans Picayune.*

SUCCESSFUL TREATMENT OF A CASE OF EXOPTHALMIC GOITRE BY SULPHURIC ACID.—Wm. Magruder, M.D., of Olney, Maryland, reports the successful treatment of a case of exophthalmic goitre by sulphuric acid. Six years ago I had an obstinate case of exophthalmic goitre in a lady about twenty-two years of age. This case presented the usual symptoms of that disease, viz.: enlargement of the thyroid gland, with decided pulsation, protrusion of the eyeballs, palpitation of the heart, frequent pulse (120 to 140), anæmia, etc. I treated the case for more than two months with very little improvement in the condition of my patient, using the various remedies usually prescribed in that disease, such as digitalis, iron, quinine, aconite, strychnine, ergot, belladonna, alone and in various combinations, and electricity, both galvanic and faradic. I then gave aromatic sulphuric acid in combination with digitalis and ergot, and found a decided improvement in a very short time. This combination, however, soon disagreed with her stomach, and I then gave the acid alone (20 gtt. every four hours), and the improvement continued.

After beginning the use of the acid, the pulse became less frequent, the pulsation soon ceased in the thyroid gland, and the enlargement gradually decreased, as did also the protrusion of the eyeballs. For about one year there was a tendency to a recurrence of the disease, but it always yielded promptly to the acid, and so marked was the relief afforded that the patient resorted to its use whenever she felt a return of the symptoms. She is now perfecly well.

I have never seen any mention of this treatment for this disease, and it may not act in another case as it did in the one reported above, but it is certainly worth a trial. I have had no other case since upon which to test the treatment, and therefore have hesitated about reporting it, but I hope others may try it and publish their results.

This treatment was suggested to my mind by reading *Clinical Observations on Functional Nervous disorders*, by C. Handfield Jones, the following remarks:

" Sulphuric and nitric acids have certainly some claim to be regarded as *toners of the vasomotor* nerves. They cannot be supposed, of course, to act in their original form on the parts they influence, as their quality must be lost the moment they enter the circulation. They cannot be mere astringents like tannin. When sulphuric acid restrains a choleraic purging, or colliquative sweating, these effects must surely be produced through the nerves that regulate the arteries of the internal and the external integument. Its special nervine action is attested by the following quotation from Dr. Pereira: 'No remedy is so successful in relieving the distressing itching, formication, and tingling of the skin as sulphuric acid taken internally.' "

Something to give tone to the vasomotor nerves seems to be indicated in this disease, and the sulphuric acid certainly seemed to have that effect in this case.—*Medical News.*

TREATMENT OF DIPHTHERIA.—The three rules to be followed for the successful treatment of diphtheria are, according to Renou:

To saturate the inspired air with antiseptics.

To feed and tone the patient to the greatest possible degree.

Never to touch the throat with any medicament, and to give internally only alcohol and quinine.

The facility with which this treatment may be applied, especially in the case of children, the certainty and rapidity of absorption, are elements which recommend a thorough trial.—*Bulletin Géneral de Thérapeutique*, October 15, 1888.

WARTS.

A remedy for warts, suggested by E. Vidal, is the following:

℞.—Acid salicylic,	
Alcohol,	āā ʒij.
Æther sulphuris,	ʒv.
Collodii,	ʒx.

M. S.—Paint the warts with the solution daily.—*The Hospital Gazette*, London, June 23.

INFANTILE CONSTIPATION.

℞.—Resinæ podophyl.,	gr. ij.
Sacch. lact.,	ʒss.

M. et. ft. chart. No. xxxij.

S.—One at night in a little milk.—*Kansas Medical Index.*

A REMARKABLE CASE OF CONGENITAL MALFORMATION.—A case of peculiar interest is reported in the *British Medical Journal* for October 20th, that of a man who had reached the age of fifty-four years with an imperforate anus. Immediately after birth it was discovered that fæces and urine were passed by the urethra, and that the anus was imperforate. An attempt was made to establish an anus in the natural situation, but only a narrow and useless fistulous opening resulted, and the passages continued as before, except that fluid from time to time escaped from the anus. When the patient was ten years old the urethra became blocked with hardened fæces, and relief was afforded by an incision into the urethra immediately in front of the scrotum. This incision resulted in a permanent fistula through which the patient continued to pass fæces and urine. He was in the habit of taking a laxative daily, and had to squeeze the fæces through the fistula with his fingers, the proceeding occupying from an hour to an hour and a half. From time to time the urethral fistula became blocked, and then everything was passed by the meatus. Sometimes, also, the urethra became blocked, and then the fæces escaped by the urethral fistula and the urine by the same opening and also by the anal orifice till he succeeded in displacing the obstruction. The urine was generally clear and normal, though it sometimes contained a brown deposit and had a fæcal smell. At the time of his death the man had been married twenty-four years, and was the father of a child.

The man was small of stature and had a peculiar dark complexion, not unlike that of a patient with Addison's disease. Latterly the urethral fistula had contracted and his difficulty had increased. Three days before his admission into a hospital the urethra had become blocked, and this had compelled him to seek assistance. On examination, a fistulous opening was found in the urethra just in front of the scrotum, along which a probe passed readily into the bladder. The urethra between the fistula and the meatus was blocked by a fæcal concretion. The anal opening only admitted a fine probe.

The urethra was slit up through the fistula an inch and a half, and the substance blocking the canal was removed. The mucous membrane was then sutured to the skin and the fistula converted into a good-sized opening, through which he continued to pass both urine and fæces so comfortably that he refused further operation.

The case is one coming under the sixth variety in the classification of Papendorf and most other standard writers on the rectum—that in which the anus is absent and the rectum ends in the bladder, urethra, or vagina. Of these varieties, that in which the rectum opens into the vagina is most common. In females the rectum seldom if ever opens into the bladder but it sometimes opens into the urethra. In males it opens oftener into the bladder than into the urethra, and in such cases it may terminate either by a narrow duct running obliquely through the bladder and opening into the *bas-fond* between the orifices of the ureters, or by a free opening (Kelsey).

These cases are rare, and generally they are quickly fatal from intestinal obstruction or from cystitis, and in this consists the great interest of the case reported. For, though several have been recorded in which life has been prolonged three or four years, the one mentioned by Gross and quoted by Kelsey, in which the patient lived to the age of thirty years, has up to the present time been considered quite phenomenal. In the case under consideration, however, the man had lived fifty-four years, was the father of a child, and, after the relief given by the slight operation mentioned, bade fair to get along without further trouble. The opening was evidently urethral and not vesical—a point in the diagnosis often very difficult to decide, and one having a great influence on the prognosis.—*N. Y. Med Jour.*

AN authority on insurance says: "We have closely watched the heavy beer drinkers in this community, with reference to their mortality ratio, for more than twenty years, and not more than five out of every hundred pass the age of fifty-three." The "splendid physique," so much insisted on as associated with beer drinking, invariably succumbs to Bright's disease, uræmic poisoning, fatty degeneration, erysipelas, or apoplexy.—*Quart. Jour. Inebriety.*

WARM FOOD *vs.* DRINK.—Indulgence in intoxicating drinks, though a consequence of diverse causes, is admitted to be in many cases closely connected with the want of suitable food. Among work-people this want is particularly felt. It is a common thing to find that in establishments where a number of persons are employed during the whole day no adequate provision, if any at all, is made for meals; time only is allowed. We cannot, indeed, expect that all employers will cater for their work-people, though many firms do so. Such an arrangement, though sometimes convenient, is not indispensable. In large manufactories or warehouses it would probably be impracticable. The employed must, in this case, provide for himself. In order to do this, unless his work be near home, two courses alone are open to him: either he must carry food for the day to the warehouse or factory, or he must rely upon some neighboring restaurant for the supply of his needs. Given a conveniently situated eating-house, his difficulties are considerably lessened, and in large towns he may in this way obtain all that he requires. Still, it may be doubted if, even in the metropolis, his opportunities of refreshment, apart from the ever open public house, are all that could be desired. There is also the question of cost, and a very cheap meal may, with the addition of train or car fares, become too dear for a short and burdened purse. If the day's provision is carried from home the cost will probably be less, but meals must often be taken cold. Some change of plan seems here very desirable. It has often occurred to us that if an arrangement could be brought about by which the food and drink thus carried by the worker could be heated at his place of occupation, the effect on his health, comfort, contentment and labor would justify its adoption. The cup that so often inebriates those it cheers would not then be, as it now too commonly is, the one article of diet possessing any apparent pretensions to warmth.

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MEDICAL NEWS AND NOTES.

ACCORDING to a law in Indiana a prescription containing more than gr. ¼ of opium or gr. 1/20 of morphine cannot be refilled more than once without the written or verbal instructions of the prescriber. A good law for any State.

DR. GEO. THOMAS JACKSON, of New York, writing from London to the *Journal of Cutaneous and Genito-Urinary Diseases*, says: "London is a vast beehive, numbering amongst its workers some four thousand medical men, some of whom are called doctors, some surgeons, some apothecaries. The surgeons are grieved if you call them 'doctor;' 'mister' is their title. The doctors are, of course, called 'doctor.' This stickling for titles is somewhat confusing and a source of embarassment at all times. Our way of calling all 'doctors' is more convenient. The proper form of address in writing is 'John Smith, Esq.,' for the surgeons; 'John Brown, Esq., M.D.,' for the doctors. But here again we run against a snag, for some of the doctors are only bachelors of medicine, and such must be addressed as 'Robert Jones, Esq., M. B.'"

THE record in numbers of the articles printed during 1888 in the *Archives of Gynæcology* on the special subjects of its title is 728. It is the aim of the editors to publish all current thought in these departments of medical knowledge. The publishers, Leonard & Co., 141 Broadway, New York, do not send sample copies, but if physicians are not pleased with the first number, it may be returned and the order erased. Subscription $3.00 per annum. Payment is not asked till end of the year.

ETHER FOR PEDICULI PUBIS.—In the *Monatshefte für Praktische Dermatologie* it is proposed to destroy pediculi pubis by a single application of ether in spray. This procedure is less injurious to the skin than the application of chloroform, which likewise accomplishes the same object.—*Deutsche Medicin. Wochenschr.*

SIX AT A BIRTH.—The London *Lancet* relates a remarkable case of delivery of six fœtuses at a birth.

A WOMAN in Edinburgh, Scotland, is pregnant at the age of 62, it being her twenty-third time. She was also pregnant at the age of 47, 49, 51, 53, 56, and 60. The case is attracting much attention from the physicians of that place, as it is a rare one.

THE EYEBROWS TELL THE TALE.—An old observer tells that one's eyebrows are an infallible guide to his age. No matter how young looking the person may be, if his eyebrows lack gloss and do not lie flat and smooth he is no longer a young man.

DR. RIVA reports the case of a woman, æt. 30 years, who was wholly blind in one eye. She suffered from a carious tooth on this side, and after its extraction the vision was restored.—*Revista de Ciencias Medicas.*

SUBCUTANEOUS injections of strychnine in the proportion of one grain in 200 of water, is claimed by a Russian physician to be a sure cure for drunkenness. For eight or ten consecutive days, five drops are injected at intervals of twenty-four hours, after this all attempts to resume drinking, so he says, will produce the most intense nausea and loathing.

CAMPHORIC ACID is recommended by Max Reichert in the treatment of various affections of the skin and mucous membranes. He has obtained very satisfactory results from its use in tonsilitis and laryngitis and in eczema of the hands and acne. He employs solutions of one-fourth to six per cent. in alcohol and water, the weaker solutions being for acute cases, the stronger for chronic affections.—*Medical Record.*

UTERINE CALCULI.—In the *Indian Medical Gazette*, Martin relates two cases in which urinary calculi were removed from prolapsed uteri. In one case the calculi weighed 1055 grains; in the other 160 grains. The author does not appear to be very clear as to the manner in which the calculi got into the uterus, as he does not mention the existence of utero-vesical fistulæ; but states that the symptoms of stone preceded the occurrence of prolapse; whence he infers that the calculi formed in the bladder and then passed down into the uterus.

AN ADVENTUROUS CHEMIST.—He often made his analyses of minerals on horseback, with the aid of a portable balance; he carried a Fortin barometer slung over his shoulder, with which he estimated the height of mountains. His methods of investigation were sometimes extraordinarily ingenious. In taking the temperature, for instance, in the crater of Parto, having found his thermometer inadequate, he let down some of the tin-foil wrappings of his chocolate cakes. The tin was melted. The temperature was, therefore, higher than the melting point of that metal, or more than 235° C. He then let down a pistol ball, which was not melted. The temperature was thus found to be lower than the melting point of lead, or less than 332° C., and was, therefore, somewhere between the two extremes. The guide who accompanied him on this adventure could not conceal his nervousness at hearing the subterranean roarings of the volcano, and, looking into the crater, asked: "What if it should burst out?" "Then we should be lost," replied Boussngault. The guide answered, calmed by the coolness of his superior: "That is what I think, too."—*From a sketch of J. C. Boussngault.*

EXPERIMENTAL TYPHOID FEVER.—"After reviewing the literature of the subject of experimental typhoid fever," says the *Lancet*, "and after detailing the results of some fresh experiments, Dr. Perret, in the *Province Médicale*, No. 16, comes to the conclusion that Eberth's bacillus freshly taken from the human body, whether living or dead, does exhibit a poisonous effect when injected into certain animals. The resulting experimental disease, however, does not bear a faithful resemblance to true typhoid fever, but is really a septicæmia, perhaps capable of a certain measure of attenuation, as seemed to be indicated by the recent researches of Perret and others."

A CASE of conception with occluded hymen is reported in the *American Journal of Obstetrics*, October, 1888. The patient was a primipara, æt. 29 years, who had menstruated regularly from her sixteenth year. The vaginal orifice was found closed by a bluish membrane one-half centimetre thick, transversed by large veins, which extended from the urethral orifice to the frenulum vulvæ, and in which not the finest opening was to be discovered. The urethra on the other hand was so dilated that in the examination it was at first taken to be the narrowed vagina. It was assumed that the semen found its way through a, in any case very small, opening in the hymen, which was only closed during pregnancy by inflammation; and that later the urethra served for copulation exclusively. After incision of the closing membrane the woman was delivered without difficulty.

SAPRÆMIA FROM FOUL TEETH.—Goodman believes that blood-poisoning may occur from foul teeth. He relates a case in which a patient suffered with persistent headache, irregular chills, fetid breath, and fever which resisted treatment. The man's teeth were so encrusted with tartar that the doctor sent him to a dentist to have them put in order. He returned, showing a set of teeth whose beauty would not have been deemed possible previously, and without further medication the man was cured.

FIRST UNDERTAKER: "Well, we can't complain much of dullness of business."

Second Undertaker: "No. It is true, we have no cholera or yellow fever this summer, but there is a very encouraging epidemic of the mind-cure in places."—*Life.*

THE enterprise and progressive spirit of Japanese surgeons may be inferred from the fact that the *Sei-I-Kwai* medical journal, August, 1888, contains a paper on "Three Successful Cases of Extirpation of Ovarian Dermoid Cysts," and one on the "Use of Cocaine in Laparotomy for Extra-Uterine Pregnancy of Fourteen Months." So far as we know, this makes only the second case in which an abdominal section has been made with cocaine as a local anæsthetic. The first was reported by Dr. Roswell Park in the *Medical Press of Western New York*, August, 1888.

THE address of the Sanitarium of Dr. William A. Hammond will in future be 1315 Connecticut Ave., Washington, D. C.

AT the recent meeting of the New York State Medical Association, Dr. William T. Lusk was elected President for the ensuing term. He accepted in one of his characteristic speeches, in which surprise, appreciation and modesty were mingled.

DR. RUDOLPH MATAS, New Orleans, La., in *Medical News*, reports a case of traumatic aneurism of the left brachial artery, in which direct and indirect pressure failed. He then ligated the artery above the tumor; pulsation returned on tenth day. He then ligated immediately below the tumor, but failing to arrest pulsation, cut down, turned out the clot and partially excised the sac. He found occlusion of the brachial from the superior ligature complete. He also found and closed, by means of silk sutures, three orifices of supply to the sac, after which the patient made a good recovery.

DR. E. L. KEYES, in a paper published in the *N. Y. Med. Journal*, says in regard to the application of electricity to urethral stricture: "My study of the subject and the experience it has brought me, digested with all the impartiality I possess, lead me to state that the allegation that electricity, however employed, is able to remove organic urethral stricture radically lacks the requirement of demonstration."

THE Transactions of the Medical Association of Alabama, in addition to the good work of the Association, shows a better organization of the profession throughout the State than can be cited by any similar body in the North and South.

FOR pain and fretfulness in nurselings at the Philadelphia Hospital it is the custom to give antipyrine in doses ranging from one-quarter of a grain to one grain. It has superseded opium entirely.—*Practice.*

MARRIED.—On October 17, 1888, Henry Dickson Bruns, M.D., of New Orleans, to Kate, daughter of General and Mrs. Thos. M. Logan, of Algoma, Virginia. Dr. Bruns is the chief editor of the *New Orleans Medical Journal*, and has by his talent and energy placed it upon a higher plane than it has ever been before.

Although still a young man he is well known in this country and to some degree abroad, as an accomplished gentleman as well as a scientific physician.

This JOURNAL offers to Dr. and Mrs. Bruns warm congratulations, and a long life of happiness and content.

A WISE PRECAUTION.—Brown: "What have you got in the bottle, Robinson?" Robinson: "Ether." Brown: "What are you going to do with ether?" Robinson: "That big duffer Jones has threatened to whip me on sight, and as soon as I see him coming I'm going to take it. I don't propose to suffer if I can help it."—*Puck.*

DR. JOS. HOLT, of New Orleans, who recently went to Portland, Oregon, to make that city his home, has just been elected to and will accept the chair of Obstetrics at the Medical College of that place. We congratulate the faculty upon its new accession.

DR. WALDEYER, of Berlin, read a paper recently before the Assembly of German Naturalists and Physicians at Cologne, in which he exhaustively reviews the rôle of women in the study and practice of medicine, going back to antiquity, and bringing forward a curious array of historical facts through the middle ages down to the present time. His conclusions are not favorable to the "women doctors." Among the objections which he raises are the following: "The profession, and especially 'the faculties,' will be overcharged; men capable of doing great things will keep out of medicine. This will be an enormous loss to science, for women are good for nothing as experimenters or original workers. In the laboratories they are awkward, careless, and unskilful." He emphasizes the usual stock arguments as to the "separate spheres" of the sexes, and concludes: "We should take care how we encourage the tendency of women to enter upon the study of medicine. It is not the way which will lead to amelioration of their lot. If the medical profession is open to them, the other learned professions must follow in their turn. Hence there is sure to result a fierce and bitter struggle, in which our entire humanity will succumb!"

Such a prospect would be sufficiently gloomy to contemplate, and we hope in this country at least it may be averted!—*Boston Med. and Surg. Journal.*

NEW LABORATORY FOR CORNELL.—The Board of Trustees of Cornell University recently appropriated $80,000 from the permanent funds of the university for the erection of a chemical laboratory. A new chemical building is made necessary by the great increase in the number of students within a few years. The sum thus taken from the permanent funds will be replaced by deducting $20,000 a year for four years after 1890 from the regular income of the university. Work on the new building will be begun at once. This will make the fourth large building in process of construction on the campus, one of them, the library, costing $225,000. The trustees appropriated $40,000 to complete the new Engineering Building, an imposing brown-stone structure, called Lincoln Hall, in honor of the President, who signed the Morrill Land-Grant bill.

AN American physician residing in Germany has found a new remedy for phthisis, in the inhalation of air heated to 60° or 80° C. The results of three or four daily inhalations are said to be very remarkable, when employed in the early stages. The bacilli finally disappear from the sputa completely.

DR. AGNEW has resigned the Chair of Surgery at the University of Pennsylvania.

DR. JOSEPH O'DWYER, the originator of Intubation of the Larynx, has been appointed Professor of Diseases of Children in the New York Post-Graduate Medical School and Hospital.

DR. HENRY B. SANDS, Professor of Surgery at the College of Physicians and Surgeons, New York City, died suddenly in his carriage on the afternoon of Sunday, November 18th, while returning from a professional visit in company with a brother practitioner. He had not been feeling quite as well as usual for a few days previously, but he had kept continually at his work. A few minutes before his death he was chatting pleasantly with his companion, when suddenly he complained of feeling chilly, his head drooped forward and in three or four minutes he was dead. At the autopsy, which was performed next day, a very extensive interstitial myocarditis and a thrombosis of one of the coronary arteries were found.

The deceased was born in New York City, September 27th, 1830, graduated from the College of Physicians and Surgeons in 1854 and was then appointed to the House Staff, of Bellevue Hospital. After his term of service he went abroad but returned to this city in 1857, when he was appointed Demonstrator of Anatomy at the College of Physicians and Surgeons. From this time he rose steadily in his profession, and he was successively called to the Chairs of Anatomy and Surgery in his Alma Mater, in which latter capacity he was at work up to the day of his death. He was a Director of the Vanderbilt Clinic, a member of the New York Academy of Medicine, of the County Medical Society, the Pathological Society, the Physicians Mutual Aid Association, the Society for Relief of Widows and Orphans of Medical Men, the Medical and Surgical Society, and until last spring was Visiting Surgeon to Roosevelt Hospital, at which time resigned from that position. By his death, the profession will be called upon to mourn the loss of one of its foremost leaders, and of its brightest intellects; one of its hardest workers and one of its shining lights.

EDITORIALS.

THE ÆTIOLOGY OF TUBERCULOSIS.—That tuberculosis is one of the greatest scourges of the human race is a well-known fact. It has been variously estimated that from one-seventh to two-sevenths of the entire mortality is due to this cause. Corresponding with its importance, the most earnest efforts of pathological anatomy and clinical medicine have been brought into requisition to discover, if possible, a sure ætiological factor. But, notwithstanding the hot endeavor, the problem seemed incapable of solution, for the history of this morbid process shows that one theory hardly gained currency before it must give place to another. All at once, however, the scientific world was astounded at the intelligence that a physician unknown to fame, quietly working in his modest laboratory, had solved this problem. This intelligence proved to be well founded, and to Robert Koch is due the great merit of having illuminated one of the darkest subjects in the whole domain of pathology. The result of his studies was that *tuberculosis* is an infectious disease which is generated by a micro-parasite, the *bacillus Kochii* (or *tuberculosus*). Experimental investigations have now conclusively shown that the following views are based on a sure foundation: *The bacillus of tuberculosis is a genuine endogenous parasite*, which, under ordinary circumstances, appears to form the permanent spores necessary for the maintenance of the species only in the living organism. It develops very slowly, and is easily displaced by other bacteria of a less dangerous character. *The infection of the organism is effected by means of the spores*; their power of infection may last in putrefying sputum as long as forty-three days, and in dried sputum even eighty-six days. These spores in a dry condition, clinging to vegetable fibres, hairs of animals, bed-clothes, body linen, etc., get into the air and gain access into the human organism in inspiration of the infected atmosphere. They may also at times be taken up by the intestine or by wounds in the skin. *Conditions favorable to infection* are first of all *wounds of the epithelium.* And again, when bacilli have penetrated into the body, it is necessary that they remain undisturbed for a sufficient length of time in order to attain to development. The spread of tuberculosis by our domestic animals appears to be limited. In this regard the cow is the animal of chief importance, and infection by milk containing bacilli or spores, if not absolutely demonstrated, is yet very likely. When cows are affected with bovine tuberculosis (*perlsucht* of the Germans) their milk may infect human beings, though only when the milk gland is the seat of tubercles and contains the bacillus.

According to v. Ziemssen the recent experiments of Bollinger and his pupils, however, have shown the remarkable fact that the milk of cows affected with bovine tuberculosis (perlsucht) is capable of infecting guinea pigs, although the udders are completely normal and the cows are in the best nutritive condition, notwithstanding that their lungs or pleura may simultaneously be the seat of a local tuberculosis. It is an important practical fact that the milk which contains bacilli can be rendered harmless by boiling for five minutes. The dissemination of the bacillus within the infected body may take place freely or within the interior of cells. At first it may extend to a limited degree being confined to parts situated near the place of infection. If the bacilli gain admission into the lymph channels, they form foci of disease in the nearest glands or at times in more remote glands. By means of the *ductus thoracicus*, the bacilli can attain to the general circulation, as likewise from the veins. Bacilli in the circulating blood develop wherever they find a suitable soil, and thus general infection or acute miliary tuberculosis is produced. Clinical medicine has frankly accepted the doctrine of Koch, although there are many difficulties in the way which have not yet been surmounted. The question of heredity first of all seems to conflict with the new doctrine. Various attempts at an explanation have been made. It has been assumed as a hypothesis that the bacillus or its spores may be conveyed to the fœtus by the spermatic fluid of the father or by the mother. The germs thus incorporated remain for a long time undeveloped until favorable conditions present themselves. As an analogy appeal is made to the facts observed in hereditary syphilis, and as confirmatory of this hypothesis, it may be mentioned that the bacillus and the specific diseases caused by it, have been found in the unborn calves of pregnant cows affected with bovine tuberculosis (*perlsucht*). In contrast with this hypothesis is the view that a *peculiar predisposition is transmitted.* This is not demonstrable anatomically. Another explanation is, that it is not necessary to assume *heredity* at all, but that, on the contrary, the facts are not irreconcilable with the theory of an *extra-uterine infection.* By the constant intercourse with parents who have tuberculosis, and consequently by its exposure to a contaminated atmosphere, it is easy to comprehend how the helpless child may be infected. While it is thus admitted that our knowledge on many points is sadly defective, it must nevertheless be obvious that there is no valid reason why the explanations afforded by experimental pathology should be rejected.

ADHESIVE ISINGLASS PLASTER AS A DRESSING AFTER CATARACT EXTRACTION.—At the last meeting of the American Medical Association in June, 1887, Dr. Julian J. Chisolm read a paper on the advantages of the simple dressing of the eye with adhesive isinglass plaster after cataract extraction. In this paper he advocated the discontinuance of the old compress bandage and the admission of a moderate amount of light into the rooms where the patients are confined. It was also stated that for some weeks previous to the reading of the paper he had been accustomed to leave open the eye which had not been attacked.

In May of this year the essayist read another paper on the same subject before the same body and gives the result of another twelve months' experience in which he expresses much more confidence than formerly in the advantages of this system of after-treatment in cataract extraction.

As we understand it, Dr. Chisolm's method lies in applying over the attacked eye a single strip of adhesive isinglass plaster so fitted that the upper lid is held firmly in apposition with the lower, and that a small aperture is left at either canthus for the instillation of drops, and for draining away of secretions.

In his last paper Dr. Chisolm states that for twelve months he has regularly left one eye uncovered in his after-treatment, that moderate light has been allowed to enter the patient's room and that the movements of the patient have been unrestrained. This report is based upon seventy-four extractions. Of these cases none were lost; in every case the cornea was clear and in only two cases were the pupils closed by iritic adhesions. In all the cases Panas' solution of the biniodide of mercury was used freely.

This method of after-treatment of cataract extractions is to a certain extent an innovation, and as such it will be very naturally criticized and its advantages and disadvantages will be discussed thoroughly. As long as any treatment is based upon sound scientific principles it must be worthy of attention, and it is the part of just men to give it not only a conscientious hearing but a fair trial.

If a strip of isinglass plaster applied to the eye as Dr. Chisolm advocates be capable of immobilizing the lids or rather of preserving their edges in correct apposition, and if the apertures left at the canthi will permit of the drainage that is necessary after such an operation, all the demands of a modern antiseptic dressing are apparently fulfilled, at least so far as the individual eye is concerned.

Dr. Chisholm thinks that an eye dressed after this manner is as safe from "jarring as if a cut finger were dressed in similar manner." This comparison is so little accurate that it adds nothing of value to the essayist's plea. The necessarily simultaneous movement of the two eyes unquestionably interferes with the process of repair when either eye has been attacked, else the principle of immobilizing a wounded organ is of no value in surgical treatment. Theorizing is by no means a disadvantage in any science, for many of the great advances in medicine and elsewere have been made by progressing on a line of thought suggested by pure speculation; nevertheless, facts are worth more than theory in drawing deductions and if good results follow a certain method of procedure in a sufficient number of cases to exclude chance as the cause, that method of procedure commends itself to us as being worthy of notice. It is pertinent to observe that Dr. Chisolm does not state that better results are obtained through the employment of his dressing than through the employment of the compression bandage.

So far as permitting light to enter into the patient's room is concerned, we are heartily at one with the essayist, for nothing strikes us as being so utterly ridiculous as to see a surgeon bind up both eyes for a patient, and then render the room as dark as night, excluding with fanatical jealousy any single ray of cheerful sunshine. Of course. we refer chiefly to the hygienic effect of the light, since if a man's eyes be bound up he receives but very little cheer by virtue of the light, unless it be through a moral impression.

When, however, the essayist states that he permits the unattacked eye to be left exposed, and permits the patient to arise from the table, walk to his room, and go about unrestrained in his movements, we feel rather inclined to look upon this from a surgical stand-point as unwise.

We remember here with considerable interest the charmingly nonchalant manner in which De Wecker, of Paris, treats his patients after performing the operation for cataract. They are told to get out of the chair and to *allez—allez vite* up-stairs. A small pad of cotton and a loose bandage over one eye apparently constitutes all the protection which the wounded organ receives at the hands of this surgeon.

He claims marvelous results which are not marvelous in any other eye than his own. Dr. Chisolm fails to remark whether the seventy-four extractions which he reports were performed with iridectomy or without iridectomy, but makes the very conscientious statement that "all his successful cases are not V. 20–20." It would be well for many other surgeons to follow this excellent example of truth-telling in stating their results from the operation of extraction of cataract, even though they might not choose to adopt the above-quoted colloquial form of expression.

The lack of vision, perfectly satisfactory, to the surgeon, was accounted for by the fact that most of his cases were farmers from the States of Virginia, North Carolina and Maryland, who left Baltimore and never returned. The chance to improve the vision by the operation for secondary cataract was, therefore, not had in many cases. The improvement was "so immense" upon the "no seeing" with matured cataract that they were perfectly satisfied with the results as secured by the primary operation.

Dr. H. Knapp, in the *Archives of Ophthalmology* for March, 1888, reviews Dr. Chisolm's work in the employment of the isinglass plaster bandage. The reference is evidently to the first paper of the latter surgeon. He says:

"The superiority of Dr. Chisolm's bandage is not borne out by statistics. Five per cent. of loss and five per cent. of no vision is below the average success of experienced and skilled operators, to the front rank of whom we all know Dr. Chisolm belongs."

This criticism is apparently unjust in view of the fact that it was expressly stated by Dr. Chisolm that when there was no vision the cause lay in a pathological condition of the fundus, and not in clouding of the media owing to inflammatory reaction.

This critique seems to have had, at least, the effect of inducing Dr. Chisolm to include in his next report only "uncomplicated cataract extractions."

The suggestion contained in this surgeon's two papers has the advantage and prestige of coming from lofty authority, and should consequently be adopted in order to test the efficiency of his method of treatment.

If similarly good results be obtained by others in the employment of it, we may look forward certainly to a modification of the classical pressure bandage. The lighting of the patient's room is so sensible and obviously rational that we are sure it will be adopted universally and the dark room will no more be the bugbear of those who fall into the ophthalmic surgeon's hands.

DR. GLOSTER ON TRIAL FOR MURDER IN ENGLAND.—A case has recently come up for trial in the courts of England that is of interest morally and legally, for the profession of medicine and that of law. A surgeon was arrested and indicted on the charge of murder of a woman who, it seems, died of septic peritonitis incident to an abortion performed on her by some one. The surgeon was in attendance upon the case when she died, and the finger of suspicion was not unnaturally pointed at him. It is satisfactory to state in the beginning that the trial was quashed chiefly on the ruling of the justice that the allegations made by the unfortunate woman in her ante-mortem statement were lacking "in those absolutely precise and unmistakable conditions that should always form the essential basis of a dying statement." Here is a surgeon who was arrested and indicted on a charge than which there can be no more disgraceful and damning, and who was forced to retire with the terrible suspicion still clinging around him and without any chance to prove his innocence in the eyes of that tribunal before which he was arraigned. All the evidence that could be collected was detailed before the coroner, but when the time came for the accused to give in his defence, he was discharged on a legal technicality. Truly, the surgeon may have been guilty, but such a thing should not be assumed, it should be proved or disproved. If he be innocent he has to face the world with this suspicion still clinging to him, and the world is rarely so charitable as to believe a man's innocence when it has not been proved.

It is worthy of reiteration: all the evidence on one side was heard, but the court could not permit evidence on the opposite side, because it was shown *ultimately* that the prisoner could not he held in view of the technical inaccuracy of some of the evidence against him. Legal right is certainly not moral right, as this case eminently demonstrates. This surgeon will probably lose his practice and his prestige; this in itself is sufficiently unfortunate without mentioning the horrible suspicion that has been cast on his character. It is not necessary to dwell at length on the testimony which was brought against him. Suffice it to say, it seems very grave but is not such as could not be refuted. The *London Lancet*, on the ground of pure probability, does not consider the evidence against the surgeon as necessarily damaging; in fact, the tenor of its entire comments is in the direction of hinting at a belief in his innocence.

The *Lancet* astutely calls attention here to the necessarily uncertain and inaccurate character of death-bed statements. The belief that a man will not lie when he stands on the threshold of the other world is purely religious. The habits of viciousness which a man may cultivate throughout life will hardly forsake him entirely because he is going to die. He would probably be as much inclined toward them in the presence of death as the residue of his vitality would permit. Moreover, as the *Lancet* very properly points out, the character of the cause from which death results will probably have great influence in determining the accuracy of a death-bed statement.

The condition of the mind of a woman who dies from hæmorrhage antecedent to child-birth would be evidently different from that of one who dies with her brain poisoned by the long-continued septic intoxication of pyæmia. Truly, there is here a chance for the establishment of some of those nice distinctions in testimony which characterize that equivocal abstraction known as legal right.

If the surgeon be innocent, he is certainly to be commiserated; it is only necessary for any one of us to imagine himself as an innocent man in this surgeon's position, without the possibility of making use of the evidence which he has at hand to prove his innocence, in order to feel how morally unjust the law is. If, on the other hand, the surgeon be guilty, it is a pity that it cannot be proved that he might receive the proper condemnation.

As long as the evidence brought forward is inconsistent and conflicting, and as long as the unfortunate man has had no chance to refute the charges brought against him, it becomes all just men to withhold their judgment, and it is at least the part of charity to consider him guiltless. How easy it is for a perfectly innocent and honorable physician to be entrapped into taking a case in which abortion has been performed by some one! The case *may be* dropped, it is true, when once a suspicion of the existing state of affairs has arisen, but such cases cannot always be dropped, nor can the lying tongue of suspicion always be silenced by retiring. Indeed, to the uncharitable such an action would rather be regarded as suspicious.

In this particular matter many a pitfall is dug for the honorable and unsuspecting physician; if he fall into the trap he is surely liable to suspicion, apparently not unjustly; but it becomes his fellow physicians to exercise charity towards him, and to believe him innocent until he be proven guilty. The *Lancet* closes its comments on this case with the following pregnant remark:

"Medical men would act wisely if, upon being asked to lend themselves to such nefarious practices, they at once communicated the fact to the police."

PNEOGRAPH.—Dr. Mortimer-Granville of England has invented an instrument for measuring the force of the breath in expiration. The instrument is quite similar in structure to the sphygmograph and consists primarily of a talc semi-disc; this semi-disc is attached to a fine needle which makes tracings over a piece of smoked paper.

The semi-disc is held over the patient's mouth, the force of the expired air sets it in motion and the extent of the excusion of the surface is thus recorded (by the needle) on the smoked paper.

If the patient be recumbent the talc surface rises and falls in expiration and inspiration respectively. If he be sitting or standing it moves backwards and forwards. The force of expiration is recorded in the upward measurement of the line which the needle traces.

In the London *Lancet* for October 13th this instrument is described and a cut is given of it together with some tracings of the breaths of a number of patients. In the tracings of a case of pluero-pneumonia with a respiration of thirty-eight to the minute, there are "vibrating lines" at the beginning and termination of the expiratory line. This case with a respiration of one hundred and two to the minute presented tracings markedly different. Of course it may be seen that respiration which approaches the normal in frequency will be indicated by relatively great height of the expiratory line.

Rapid and shallow respiration will be indicated a line whose expiratory excursion will be small. A case of mitral in-sufficiency with a feeble respiration of eighteen to the minute, was indicated by an undulating and slightly fretted line.

The possibilities in this instrument at the first blush seem to be considerable and it perhaps only needs further methodical employment of it to develop them.

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